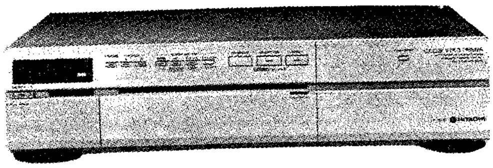
HITACHI

SERVICE MANUAL

TK

No. 3322E

VY-150E



Technical Data

V01823

SPECIFICATIONS

Model:	VY-150E
Printing System:	Sublimable dye thermal transfer line printing
Picture Memory:	1-frame memory(field A, field B)
Print Picture:	64-tone frame picture (interpolated frame picture in the field mode) Number of pixels printed : 563×640 dots
Printing Time:	Normal printing : Approx. 110 seconds/picture Reverse printing: Approx. 130 seconds/picture
Printing Media:	Ink paper: Cartridge type (exclusive) 3-colour sequential printing (yellow, magenta, cyan) Print paper: Cut paper: 100×140mm (standard size), Picture size: 84.5×110mm
Video Input:	S video input: Y (luminance signal) 1.0Vp-p, 75 ohm C (chrominance signal) 0.3Vp-p, 75 ohm Composite video input: 1.0Vp-p, 75 ohm (US pin) RGB input: RGB analogue still 0.7Vp-p, 75ohm, positive polarity (BNC) C. SYNC 0.3-4Vp-p, 75ohm, positive/negative polarity (BNC) f_H=15.625kHz f_V=50Hz
Video Output:	S video output: Y (luminance signal) 1.0Vp-p, 75 ohm C (chrominance signal) 0.3Vp-p, 75 ohm Composite video output: 1.0Vp-p,75 ohm (US pin)
Input/output Combination Jack:	TV: PAL Composite video 1.0Vp-p, 75 ohm EXT. (VTR) : PAL Composite video 1.0 Vp-p, 75 ohm
Operating Temperature:	5°C~35°C
Permissible Relative Humidity:	25 ~ 75%
Power input:	AC 220V 50Hz
Power Consumption:	Approx. 130W 0.8A (during printing) Approx. 20W (with power on)
Dimensions:	435(W)×111(H)×365(D)mm
Weight:	8.5kg
Accessories Provided:	1 — Video print kit 1 — EURO cable 1 — US pin cable 1 — S connecter cable 1 — Paper tray 1 — Infrared remote control unit 2 — Batteries

Design and Specifications are subject to change without notice.

MANUALS RELATED TO THE VY-150E

Name of Manual	Language	Manual No.	Chapters included
Technical Data	English	3322E	Chapters 1-6
Technical Information	English	3323E	——

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

COLOUR VIDEO PRINTER

August 1990 TOKAI WORKS

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Sicherheitshinweise

Die folgenden Vorsichtsmaßnahmen sind einzuhalten, wenn Wartungsarbeiten an diesem Modell ausgeführt werden.

1. Da verschiedene Teile dieses Gerätes besondere Sicherheitsfunktionen aufweisen, nur Hitachi Original-Ersatzteile verwenden. Besonders kritische Teile im Netzteil dürfen nicht durch Teile anderer Hersteller ersetzt werden. Die kritischen Teile sind in den Schaltplänen und Leiterplatten-Diagrammen mit dem Symbol ⚠ gekennzeichnet.
2. Bevor das reparierte Gerät an den Kunden ausgeliefert wird, muß der Wartungstechniker das Gerät einer gründlichen Prüfung unterziehen, um optimale Betriebssicherheit sicherzustellen und die Gefahr elektrischer Schläge auszuschließen.

COMPARISON WITH PREVIOUS MODEL

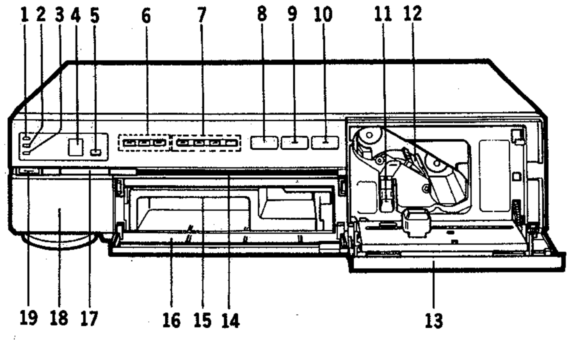
Model	VY-150E	VY-25E
Printing System	Sublimable dye thermal transfer printing	Sublimable dye thermal transfer printing
Picture memory	Y, R-Y, B-Y 1 Frame or 2 Fields (563 x 640 dots)	Y, R-Y, B-Y 1 Field (280 x 512 dots)
Print picture element	563(V) x 640(H)	540(V) x 620(H)
Gradation	64 Levels, Continuous tone	64 Levels, Continuous tone
Printing time	Approx. 110 s/Normal printing 130 s/Reverse printing	Approx. 120 s/printing
Picture size	84.5 x 110 mm	77 x 97 mm
Max picture density	Approx. 2.2	Approx. 2.1
Printing Media Ink paper Print paper	Front loading Cartridge type 3 colours in sequence Cut paper: 100 x 140 mm HITACHI Brand Media	Front loading Cartridge type 3 colours in sequence Cut paper: 100 x 128 mm
Input	PAL Composite Video Y/C Separate Video RGB Analogue still	PAL Composite Video RGB Analogue still
Output	PAL Composite Video Y/C Separate Video	PAL Composite Video RGB through
Input/Output combination jack	TV: PAL Composite Video EXT(VTR): PAL Composite Video	TV: PAL Composite Video RGB through out EXT(VTR): PAL Composite Video
Character Superimpose	O	X
Date Superimpose	O	X
Mirror reverse printing	O	O
Printer Control	X	X
Remote Control	Wireless	Wired
4-division printing	X	O
Power requirements	220 to 240V 50Hz	220 to 240V 50Hz
Power consumption	Approx. 130W	Approx. 130W
Dimensions (WxHxD)	435 x 111 x 365 mm	435 x 120 x 375 mm
Weight	Approx. 8.5 kg	Approx. 9 kg
Accessories	Instruction manual Wireless remote control unit Paper ink set EURO cable S-Connector cable	Instruction manual Wired remote control unit Paper ink set EURO cable Belt cleaning plate

SAFETY PRECAUTIONS

The following precautions should be observed when servicing.

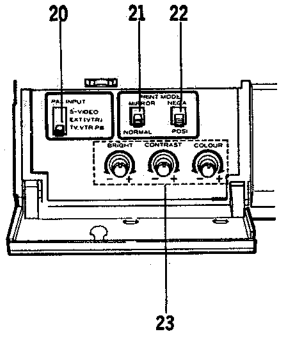
1. Since many parts in the unit have special safety-related characteristics, always use genuine Hitachi replacement parts. Especially critical parts in the power circuit block should not be replaced with other makers' parts! Critical parts are marked ⚠ in the schematic diagrams.
2. Before returning a repaired unit to the customer, the servicing technician must thoroughly test the unit to assertain that it is completely safe to operate without danger of electrical shock.

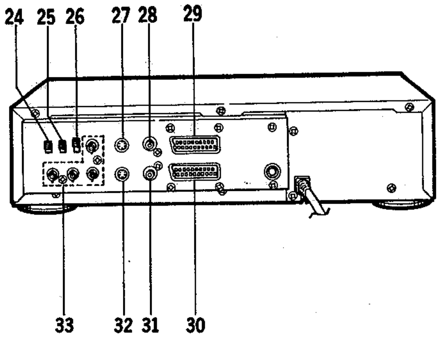
CONTROLS AND FUNCTIONS



1. **READY INDICATOR**
   When the indicator is lit, a picture can be printed.
2. **PAPER INDICATOR**
   Blinks when printing is attempted without print papers in the paper cassette.
3. **INK INDICATOR**
   Blinks when the ink paper is used up.
4. **PRINT COUNTER**
   Shows the number of prints to be made.
   Set the number by pressing the print number SET button.
5. **PRINT NUMBER SET BUTTON**
   Sets the number of prints to be made. The number is displayed in the print counter.
6. **MEMORY SELECT BUTTONS**
   Select FRAME, FIELD A or FIELD B when storing a picture in memory or printing it.
7. **SUPERIMPOSE BUTTONS**
   Use these buttons to superimpose the date or title on the print.
8. **MEMORY BUTTON**
   Press this button to store a picture.
   - When the PAL/RGB INPUT SELECT switch is set to "RGB", no picture can be stored in memory.
9. **MONITOR BUTTON (MEMORY/SOURCE)**
   Use this button to switch the picture to be displayed on the TV screen.
   When the indicator in the button is off, the picture from the input jacks appears on the TV screen. (SOURCE)
   When the indicator in the button is lit, the picture to be printed appears on the TV screen. (MEMORY)
10. **PRINT BUTTON**
    Press to print.
11. **CARTRIDGE EJECT LEVER**
    Press to remove the print cartridge.
12. **PRINT CARTRIDGE HOUSING SECTION**
    Put a print cartridge in here.
13. **CARTRIDGE DOOR**
14. **PRINTED PAPER OUTLET**
    Prints come out here.
15. **PAPER CASSETTE**
16. **CASSETTE DOOR**
17. **REMOTE SENSOR**
    Receives the infrared ray from remote control unit.
18. **CONTROL DOOR**
19. **OPERATE SWITCH**
    Turns the system power on and off.
20. **PAL INPUT SELECT SWITCH**
    Using this switch, select the source (input equipment) from which you want to print.
    S-VIDEO : To print a picture from equipment connected to S-VIDEO (Y/C) IN jack.
    EXT.(VTR) :To print a picture from a VTR, video camera, video disc player, etc.
    TV, VTR PB :
    (1) To print a picture received by a TV connected to the printer via a EURO cable.
    (2) To print a picture played back by a VTR connected to the printer via a EURO cable.

Controls behind the Door



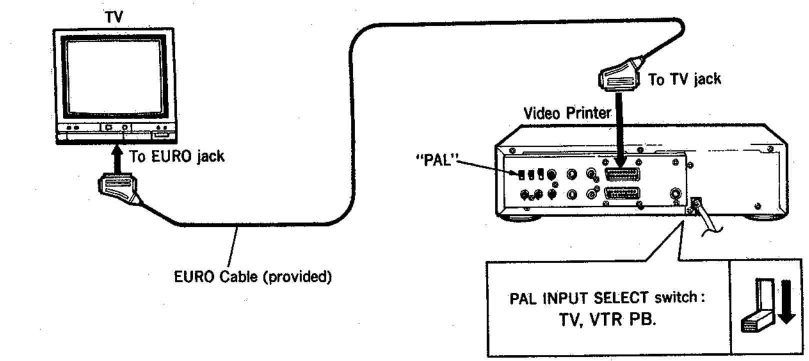


21. **MIRROR REVERSE SWITCH**
    In the "NORMAL" position, the picture is printed as it appears on the TV screen.
    "MIRROR" permits printing of an inverted mirror-image picture.
22. **NEGA/POSI REVERSE SWITCH**
    Usually, it is set to "POSI". In the "NEGA" position, the picture is printed with the colours reversed.
23. **PRINT PICTURE CONTROLS**
    Use these controls to adjust the brightness, contrast and colour density of the picture stored in memory.
24. **PAL/RGB INPUT SELECT SWITCH**
    Using this switch, select the source (input equipment) from which you want to print.
    RGB: To print a picture from equipment connected to RGB IN jacks.
    PAL: To print a picture from a VTR, video camera, video disc player, etc.
25. **75Ω TERMINATION SWITCH**
    ON: Terminates R, G, B and SYNC input jacks with 75Ω.
    OFF: Sets the R, G, B and SYNC input jacks to high impedance.
26. **SYNC SIGNAL SELECT SWITCH**
    Switches the positive sync signal to negative when a video signal is input via the RGB IN jacks.
    Set to "‾⊔‾" when a negative sync signal is input, to "_⊓_" when a positive sync is input, and to "GRN" when the sync signal is present in the green signal.
27. **S-VIDEO (Y/C) IN JACK**
    Input separate Y/C (luminance/chrominance) signals.
28. **VIDEO IN JACK**
    Input a video signal.
29. **TV JACK**
    For connection with a TV with a EURO jack using a EURO cable.
30. **EXT. (VTR) JACK**
    Connect to equipment that outputs video signal (VTR, video disc player, etc.) using a EURO cable.
31. **VIDEO OUT JACK**
    Outputs the video signal.
32. **S-VIDEO (Y/C) OUT JACK**
    Outputs separate Y/C (luminance/chrominance) signals.
33. **RGB IN JACKS**
    Connect a video equipment with RGB output jacks to these jacks input video signals.

CONNECTIONS

Example 1: To print pictures of TV set (I)

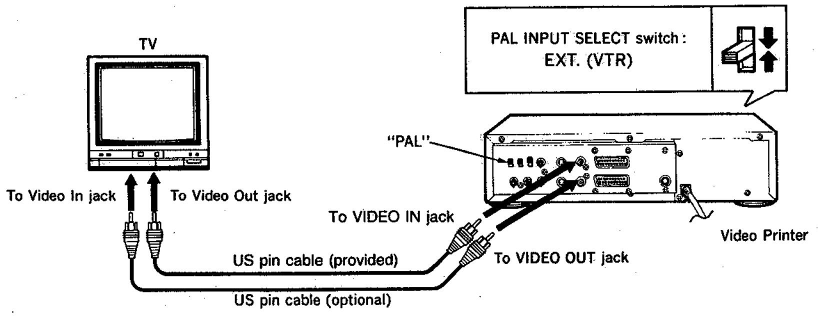
- If your TV set has a EURO jack, follow the connection below.


TV
To EURO jack
EURO Cable (provided)
To TV jack
Video Printer
"PAL"
PAL INPUT SELECT switch :
TV, VTR PB.

Notes:
1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "PAL".
2. Set the PAL INPUT SELECT switch behind the control door to "TV, VTR PB.".
3. Do not connect any cord to the VIDEO OUT jack with the above connection.

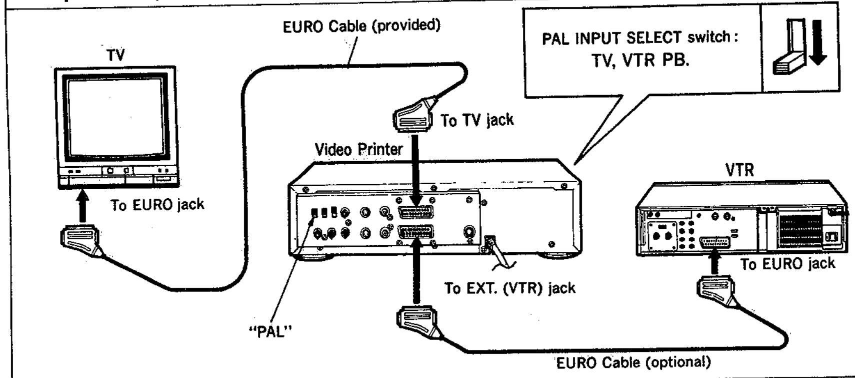
Example 2: To print pictures of TV set (II)

- If your TV set has video in/out jacks, follow the connection below.


PAL INPUT SELECT switch :
EXT. (VTR)
TV
"PAL"
To Video In jack
To Video Out jack
To VIDEO IN jack
US pin cable (provided)
To VIDEO OUT jack
US pin cable (optional)
Video Printer

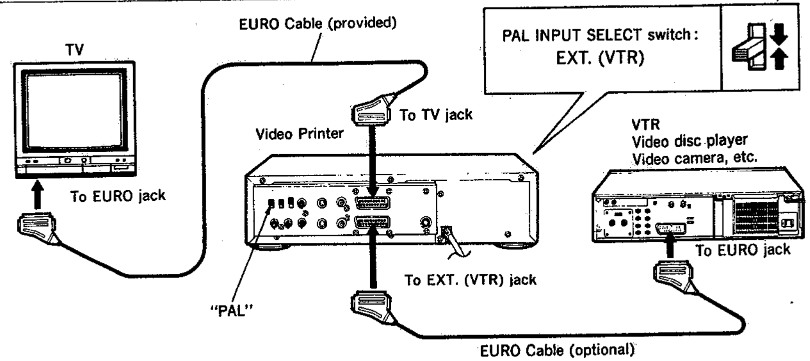
Notes:
1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "PAL".
2. Set the PAL INPUT SELECT switch behind the control door to "EXT. (VTR)".

Example 3: To print pictures of TV broadcast and picture played back by a VTR.


EURO Cable (provided)
PAL INPUT SELECT switch :
TV, VTR PB.
TV
To TV jack
Video Printer
VTR
To EURO jack
To EURO jack
To EXT. (VTR) jack
"PAL"
EURO Cable (optional)

Notes:
1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "PAL".
2. Set the PAL INPUT SELECT switch behind the control door to "TV, VTR PB.".
3. A picture of the TV broadcast is printed except during VTR playback.
4. The TV is switched to the picture played back from the VTR during VTR playback. Select the required VTR playback picture for printing.
5. Do not connect any cord to the VIDEO IN and OUT jacks with the above connection.

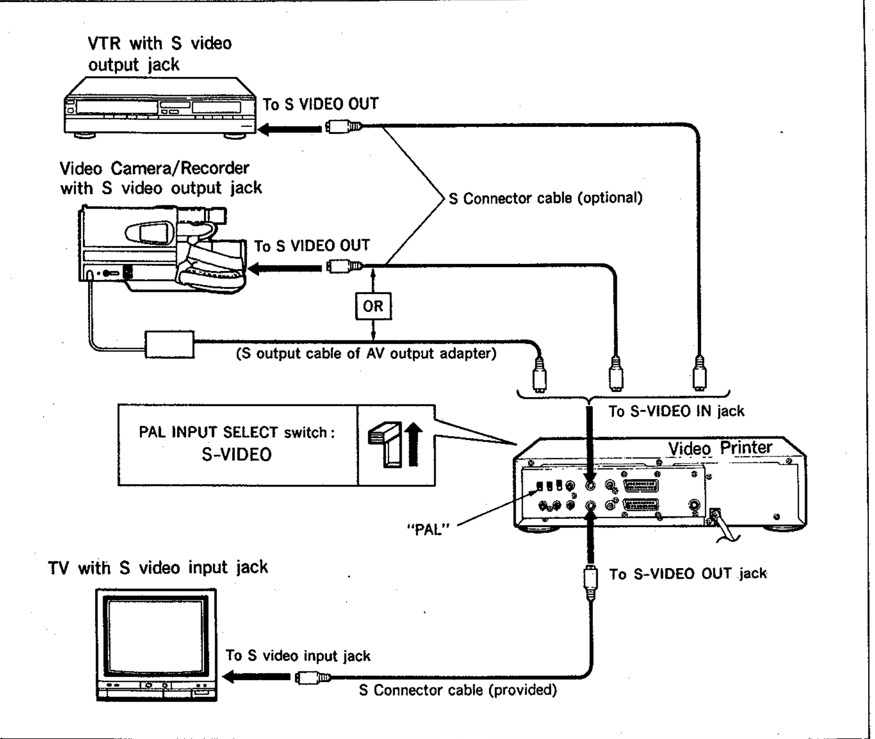
Example 4: To print pictures from external equipment (with EURO jack)


EURO Cable (provided)
PAL INPUT SELECT switch :
EXT. (VTR)
TV
To TV jack
Video Printer
VTR
Video disc player
Video camera, etc.
To EURO jack
To EURO jack
To EXT. (VTR) jack
"PAL"
EURO Cable (optional)

Notes:
1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "PAL".
2. Set the PAL INPUT SELECT switch behind the control door to "EXT. (VTR)".
3. The above connection is the same as in Example 3. When the PAL INPUT SELECT switch is set to "EXT. (VTR)" in this state, the picture from the VTR is always input to the printer even if the VTR is not in the playback mode.
4. Even when the external equipment can output S-video signals (Y/C) from the EURO jack, the printer cannot print S-video signals with the above connection. Refer to Example 5 for printing S-video signals.

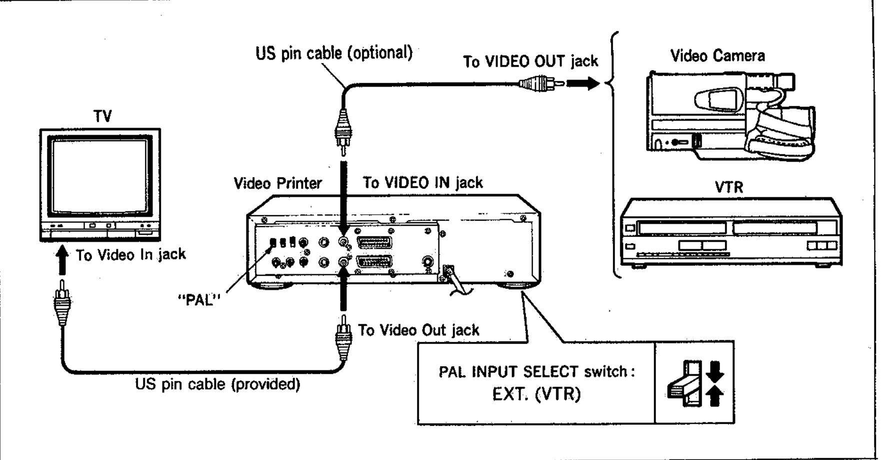
CONNECTIONS (continued)

Example 5: To print pictures from external equipment (with an S-video terminal)


VTR with S video output jack
To S VIDEO OUT
Video Camera/Recorder with S video output jack
To S VIDEO OUT
S Connector cable (optional)
OR
(S output cable of AV output adapter)
To S-VIDEO IN jack
PAL INPUT SELECT switch: S-VIDEO
Video Printer
"PAL"
TV with S video input jack
To S-VIDEO OUT jack
To S video input jack
S Connector cable (provided)

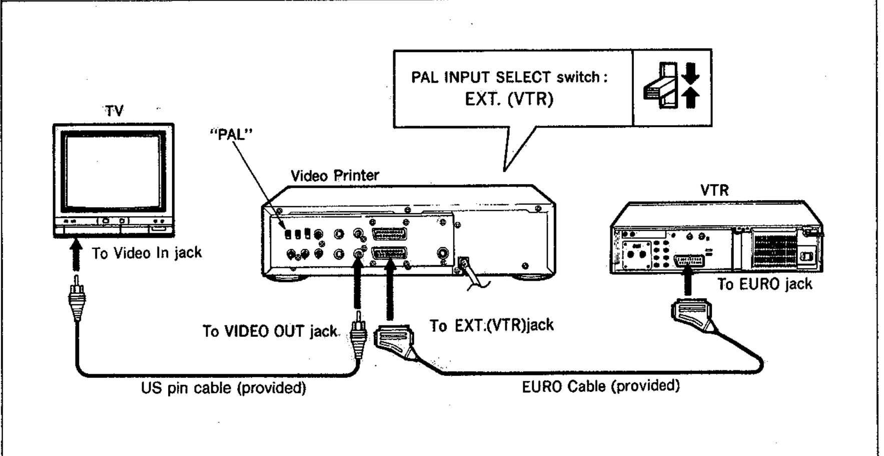
Notes:
1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "PAL".
2. Set the PAL INPUT SELECT switch behind the control door to "S-VIDEO".
3. When the TV is connected to the VIDEO OUT or TV jack of the printer with the above connection, you can only see the picture stored in memory (memorized picture).

Example 6: To print pictures from external equipment (with a video output jack)


US pin cable (optional)
To VIDEO OUT jack
Video Camera
TV
Video Printer
To VIDEO IN jack
VTR
To Video In jack
"PAL"
To Video Out jack
US pin cable (provided)
PAL INPUT SELECT switch: EXT. (VTR)

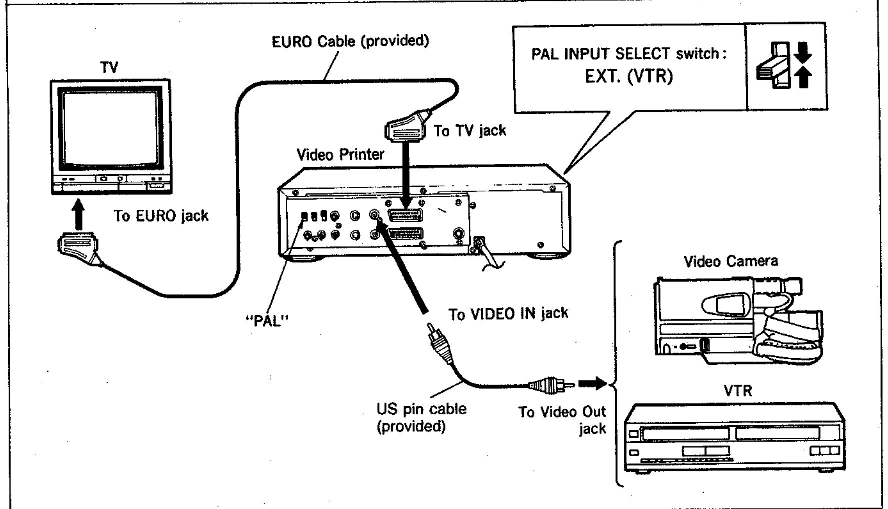
Notes:
1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "PAL".
2. Set the PAL INPUT SELECT switch behind the control door to "EXT. (VTR)".
3. The equipment connected to the VIDEO IN jack has priority over the equipment connected to the EXT. (VTR) jack.

Example 7: To print pictures from external equipment (Combination I of examples 4 and 6)


PAL INPUT SELECT switch: EXT. (VTR)
TV
"PAL"
Video Printer
VTR
To Video In jack
To EURO jack
To VIDEO OUT jack
To EXT.(VTR)jack
US pin cable (provided)
EURO Cable (provided)

Notes:
1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "PAL".
2. Set the PAL INPUT SELECT switch behind the control door to "EXT. (VTR)".
3. Do not connect any equipment to the VIDEO IN jack with the above connection.

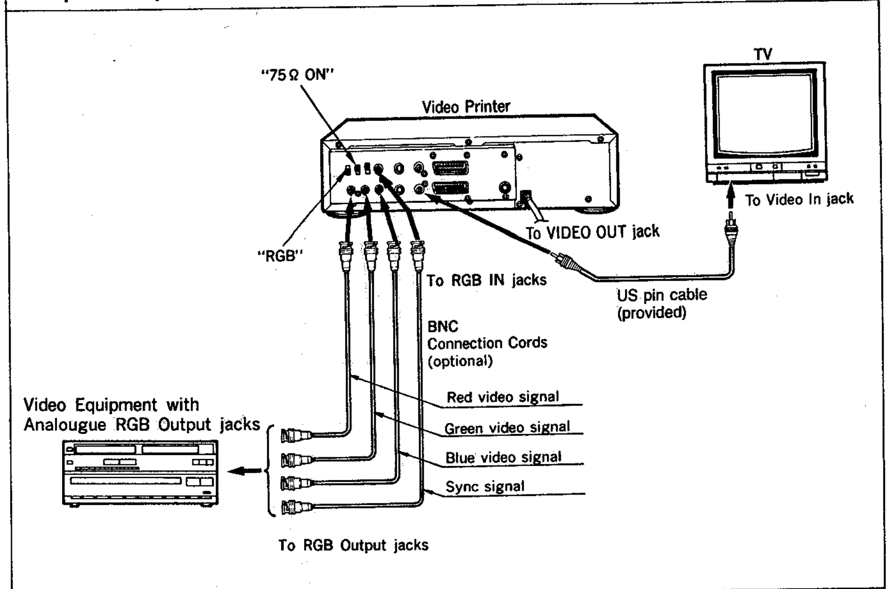
Example 8: To print pictures from external equipment (Combination II of examples 4 and 6)


TV
EURO Cable (provided)
PAL INPUT SELECT switch:
EXT. (VTR)
To TV jack
Video Printer
To EURO jack
"PAL"
To VIDEO IN jack
Video Camera
VTR
US pin cable
(provided)
To Video Out
jack

Notes:

1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "PAL".
2. Set the PAL INPUT SELECT switch behind the control door to "EXT. (VTR)".
3. The equipment connected to the VIDEO IN jack has priority over the equipment connected to the EXT (VTR) jack.

Example 9: To print from a Video equipment with Analogue RGB output jack


"75Ω ON"
Video Printer
TV
To Video In jack
To VIDEO OUT jack
"RGB"
To RGB IN jacks
US pin cable
(provided)
BNC
Connection Cords
(optional)
Video Equipment with
Analougue RGB Output jacks
Red video signal
Green video signal
Blue video signal
Sync signal
To RGB Output jacks

Notes:

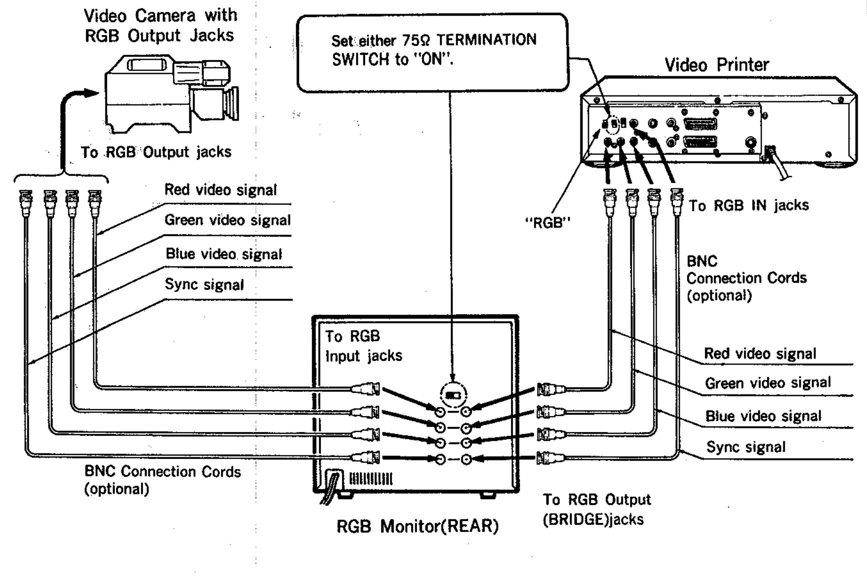
1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "RGB".
2. Before connecting a video equipment with analogue RGB output jacks to the video printer, check that video equipment satisfies the input signal specifications of the printer. If a video equipment which does not satisfy the specifications is connected, the correct printing cannot be performed.

   RGB input signal specifications
   RGB input : 0.7Vp-p, 75ohm/high impedance, positive polarity
   Composite sync input: 0.3-4Vp-p, 75ohm/high impedance, positive/negative polarity or sync on green.
   f_H=15.625kHz, f_V=50Hz

3. Change the sync signal select switch on the back of the printer according to the RGB input signals.
   - Set this switch to "GRN" when a sync signal is superimposed on the green video signal.
4. Set the 75Ω termination switch on the back of the printer to "ON".
5. **The video printer does not store RGB signals in memory. Operate the video equipment which is supplying the RGB signals so the picture becomes still and then print it.**

CONNECTIONS (continued)

Example 10: To print pictures from an RGB Monitor with RGB output (BRIDGE) jacks

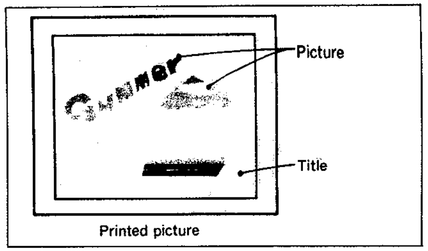

Video Camera with
RGB Output Jacks
To RGB Output jacks
Red video signal
Green video signal
Blue video signal
Sync signal
BNC Connection Cords
(optional)
Set either 75Ω TERMINATION SWITCH to "ON".
Video Printer
"RGB"
To RGB IN jacks
BNC
Connection Cords
(optional)
To RGB
Input jacks
Red video signal
Green video signal
Blue video signal
Sync signal
To RGB Output
(BRIDGE)jacks
RGB Monitor(REAR)

Notes:

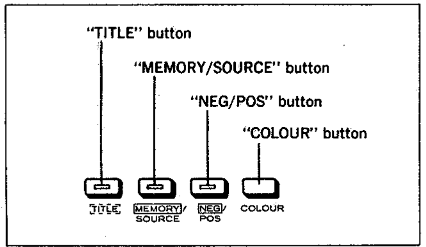
1. Set the PAL/RGB INPUT SELECT switch on the rear panel to "RGB".
2. Before connecting RGB signals to the printer, check that they satisfy the RGB input signal specifications (Refer to item 2 of Notes in Example 9.).
3. Change the sync signal select switch on the back of the printer according to the RGB input signals.
   - Set this switch to "GRN" when a sync signal is superimposed on the green video signal.
4. Set either 75Ω termination switch of the printer or RGB monitor to "ON".
   - If both switches are set to "ON" (or "OFF"), the printed picture is extremely dark (or bright).
5. Connect another TV to the VIDEO OUT jack of the printer if you want to view the picture controlled by the printer (the picture adjusted by the print picture cotrols, etc.). (See the connection diagram in Example 9)
6. **The video printer does not store RGB signals in memory. Operate the video equipment which is supplying the RGB signals so the picture becomes still and then print it.**

TITLE SUPERIMPOSITION

This allows you to print a picture with a superimposed title.

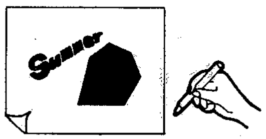

Picture
Title
Printed picture

Buttons to operate

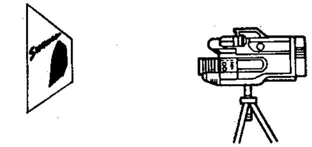

"TITLE" button
"MEMORY/SOURCE" button
"NEG/POS" button
"COLOUR" button
TITLE
MEMORY/SOURCE
NEG/POS
COLOUR

Prepare a title and shoot it with a camera/recorder

1. Draw the title to be superimposed on a large sheet of white paper using a black pen.



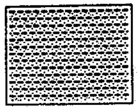
2. Connect the camera/recorder to the printer.
   - Read "CONNECTIONS" carefully.
3. Point the camera/recorder at the title prepared in step 1 to shoot it.
   - It is not necessary to record it.



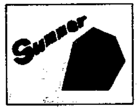
- Raise the illumination so no shadow is produced.
- Also read the instruction manual of the camera/recorder carefully.

Store the title in memory

1. Press the TITLE button twice.
   The indicator in the button flashes and the MEMORY/SOURCE button indicator lights.
   - When a title has already been stored in memory, the stored title appears on the screen.
   - When a title has not still been stored, a noisy picture appears as shown below.

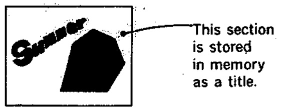


2. Press the MEMORY/SOURCE button.
   The indicator in the MEMORY/SOURCE button goes off and the picture from the camera/recorder appears on the screen.
   - The picture becomes rough and monochrome.



- Check that no shadow appears on the screen at this time.
  When the title is stored in memory with a shadow appearing and printing is started, unnecessary parts will be printed.
- The noise or title which appeared on the screen in step 1 will be erased.

3. Press the MEMORY/SOURCE button again to store the title in memory.
   The indicator in the MEMORY/SOURCE button lights.


This section is stored in memory as a title.

- If the stored title differs from the composition you desire, start from step 2 again.

4. Press the COLOUR button to select the colour of the superimposed title.

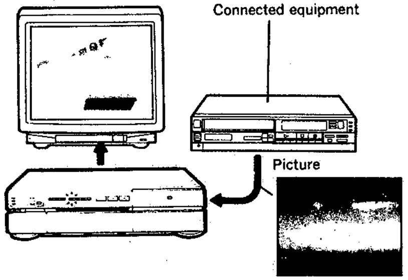
WHITE → YELLOW → MAGENTA → RED
BLACK ← BLUE ← GREEN ← CYAN

Notes:

- When the power is turned off, the title stored in memory is cleared.
- If the PAL INPUT SELECT switch is set to "TV, VTR PB.", a title is not stored in memory.

Print picture while inserting a title

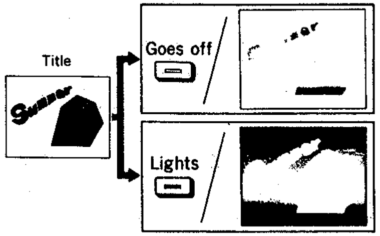
1. Check that the MONITOR button indicator goes off while the TITLE button is blinking, to display the prepared title on the screen.
   - When the MONITOR button indicator is lit, press the MONITOR button to switch it off.
2. Make a picture appear on the screen.
   - Operate the connected equipment to make the picture appear on the screen.



- When using the printer with the connection in example 1 or 3, set the MONITOR button to "MEMORY" (the indicator lights). when the button is set to "SOURCE" (the indicator goes off), you cannot see the title on the TV screen.
- The black portion of the prepared title becomes a "window" and the picture appears only in the window.

3. Perform steps 2 and 3 of "PRINTING".

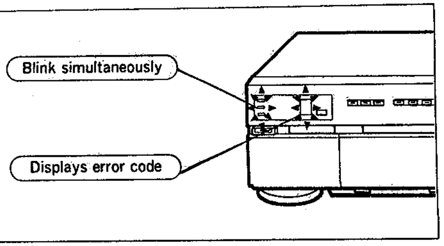
■ To reverse the title
When the NEG/POS button is pressed, the stored title is reversed.



PAPER JAMS

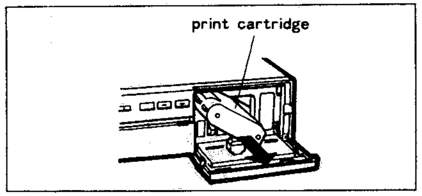
When print paper jams or the ink paper is caught in the print cartridge, the READY, PAPER and INK indicators will flash to indicate a malfunction.
Check the error code displayed by the print counter and take the following remedies.

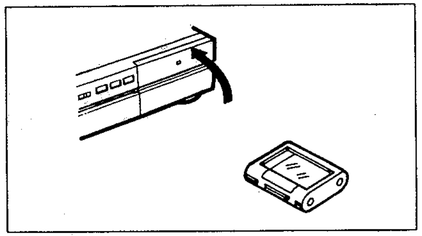
- Print paper which is discharged without a picture printed can be used again.



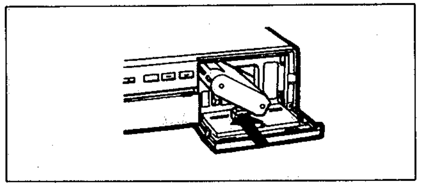
When "d" flashes

1. Open the cartridge door and remove the print cartridge.





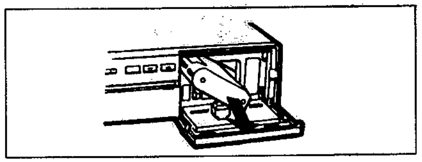
2. Close the cartridge door and wait until the READY indicator stops flashing.
   (The READY indicator will be OFF and the INK indicator will be flashing.)
3. Open the cartridge door again and reinsert the print cartridge.



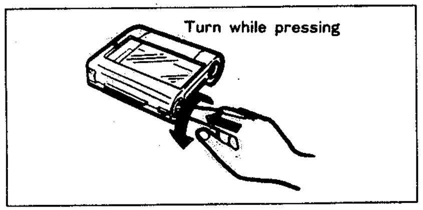
4. Confirm that the READY indicator is ON again before printing.
5. Press the PRINT button, or follow the normal printing.

When "A" flashes

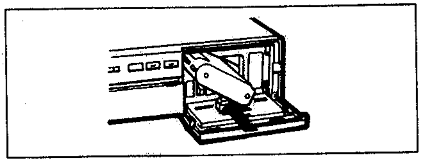
1. Open the cartridge door and remove the print cartridge.



2. Confirm that the ink paper is tight in the print cartridge.
   If the ink paper is loose, take up the slack as shown in the figure below.



3. Reinsert the print cartridge.



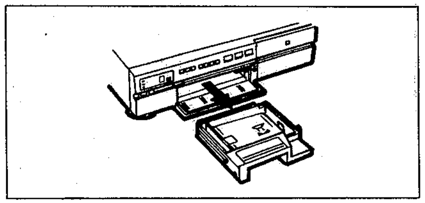
4. Confirm that the READY indicator is ON before printing.
5. Press the PRINT button, or follow the normal printing.

PAPER JAMS (continued)

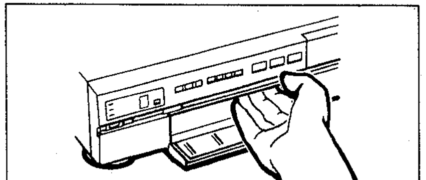
When "3" flashes

Print paper is clogged in the unit. Eject the paper by following the instructions below.

1. Open the cassette door and remove the paper cassette from the cassette compartment.



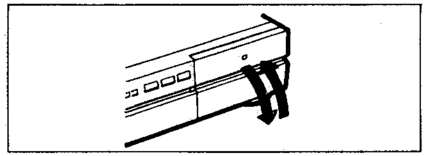
2. A small opening is provided on the ceiling of the cassette compartment. Push out the clogged paper with a finger tip through the opening. And the paper can now be pulled out from the paper outlet.



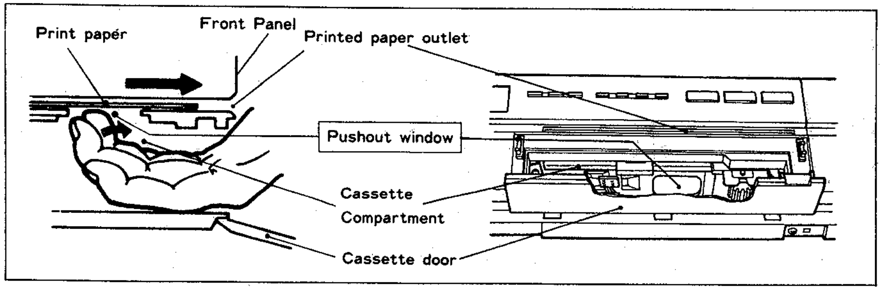
Also see the figure below.

CAUTION
Do not touch the sections other than the pushout window when inserting your fingers through the opening to remove the print paper. It could cause a malfunction.

3. Insert the paper cassette back into the cassette compartment.
4. Open the cartridge door and then close it again with the print cartridge left in the compartment.



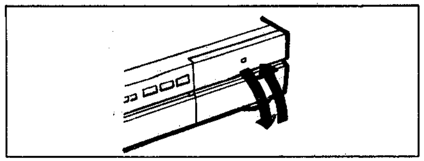
5. Confirm that the READY indicator is ON before printing.
6. Press the PRINT button, or follow the normal printing.

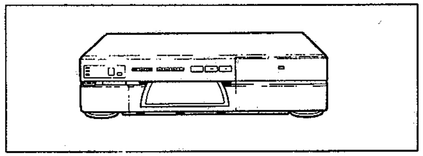


When one of " 1, 2, 4, 5 or 8 " flashes

1. Open the cartridge door and then close it again with the print cartridge left in the compartment. The paper, if jammed, will be ejected out automatically and the READY indicator will come ON.
2. If the READY indicator does not come ON, repeat step 1.

NOTE: Print paper which came out from the outlet can be reused if the paper is not damaged.





9 or E Do not attempt to repair the printer yourself. You may damage the mechanism inside.
Consult the dealer from whom you purchased the printer.

VIDEO PRINT KIT

Be sure to use these exclusive kits with this printer.

Model	Size (mm)	Number of sheets	Content
VY-SS50A	100×140	50	50 sheet of print paper and a print cartridge.
VY-SC30W	100×140	30	Sticker-type sheets and a print cartridge for 30 prints.

NOTES:

The video print kit incorporates sheets of print paper and a print cartridge. Load them into the printer without changing the combination as this could cause a paper jam or defective printing.

- This printer is supplied with a standard type video print kit (30 sheets of print paper and a print cartridge).
- Do not stain the printing surface (without marking) of the paper with fingerprints, etc. as this could degrade the quality of printing.
- The sheets of print paper may stick to each other. Release them before loading.
- Do not leave the sheets of print paper while their printing surfaces (without markings) are in contact with each other.
- Do not use folded or bent print paper as this could cause a malfunction.
- Never use wet print paper.
- Do not touch the ink paper in the print cartridge with your fingers or pull it out.
- Check that the ink paper is not slack before loading the print cartridge.
- When the ink paper in the print cartridge is used up, replace the cartridge. Once used, a print cartridge cannot be reused.
- Do not store video print kits in a place where there is high temperature and humidity or a place exposed to direct sunlight.

DISASSEMBLY

1. NAMES AND LOCATIONS OF CIRCUIT BOARDS

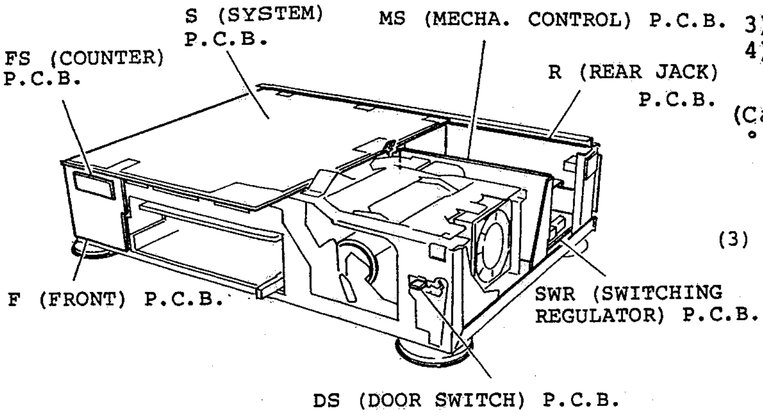

S (SYSTEM) P.C.B.
MS (MECHA. CONTROL) P.C.B.
FS (COUNTER) P.C.B.
R (REAR JACK) P.C.B.
F (FRONT) P.C.B.
SWR (SWITCHING REGULATOR) P.C.B.
DS (DOOR SWITCH) P.C.B.

Fig. 1-1 Front View

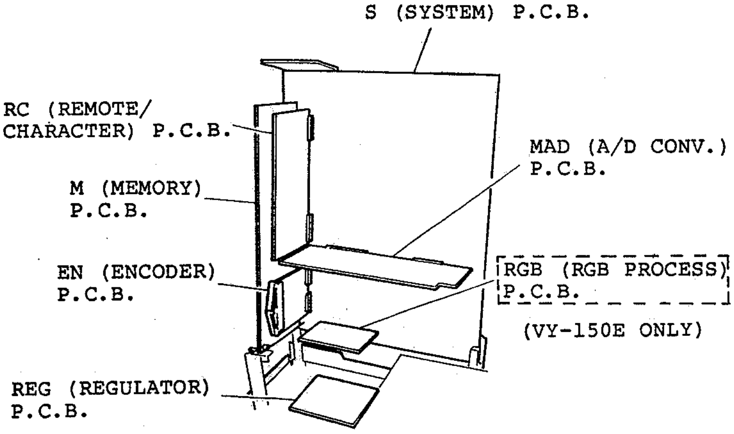

S (SYSTEM) P.C.B.
RC (REMOTE/ CHARACTER) P.C.B.
MAD (A/D CONV.) P.C.B.
M (MEMORY) P.C.B.
EN (ENCODER) P.C.B.
RGB (RGB PROCESS) P.C.B.
(VY-150E ONLY)
REG (REGULATOR) P.C.B.

Fig. 1-2 State with S (System) Circuit Board Opened

2. CASE REMOVAL

1. Top Cover (Fig. 2-1)

1) Remove seven (7) screws holding the top cover.
2) Pull both sides of the top cover outward to lift it up and slide the top cover backwards.

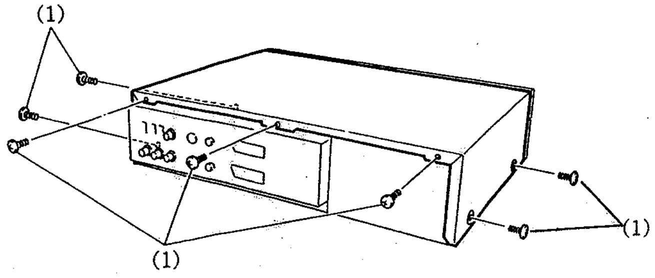


Fig. 2-1 Top Cover

2. Front Panel (Fig. 2-2)

1) Remove the top cover. (see item 1)
2) Remove the screws holding the front panel, three (3) at the bottom and three (3) at the top.
3) Open the ink cartridge door.
4) Release six (6) stoppers and pull out the front panel to the front.

(Caution when reinstalling)

- Reinstall the front panel with the ink cartrige door open.

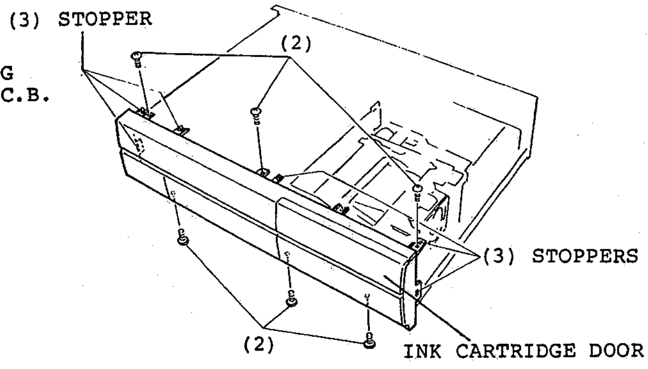

(3) STOPPER
(2)
(3) STOPPERS
(2)
INK CARTRIDGE DOOR

Fig. 2-2 Front Panel

3. Rear Cover (Fig. 2-3)

1) Remove the top cover. (See item 1)
2) Remove three (3) screws holding the rear cover.

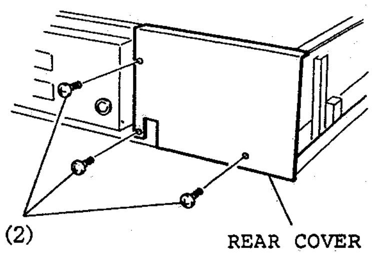

(2)
REAR COVER

Fig. 2-3 Rear Cover

4. Rear Jack Cover (Fig. 2-4)

1) Remove the top cover. (See item 1)
2) Remove the rear cover. (See item 3)
3) Remove two (2) screws holding the rear jack cover.
(Remove eight (8) screws holding the R (Rear Jack) circuit board at this time.)

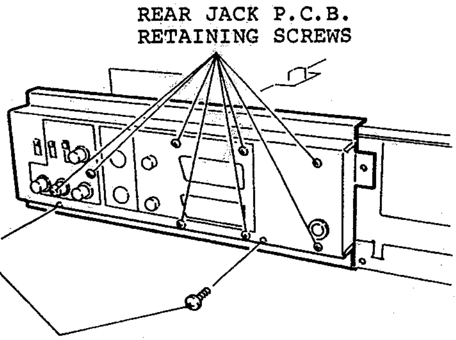

REAR JACK P.C.B. RETAINING SCREWS
(3)

Fig. 2-4

5. **Bottom Cover** (Fig. 2-5)

1) Remove three (3) screws holding the bottom cover.

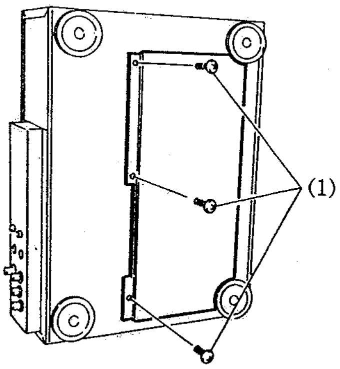


Fig. 2-5 Bottom Cover

6. **Ink Cartridge Door** (Figs. 2-6, 2-7)

1) Release two (2) stoppers and remove the inner cover of the ink cartridge door.
2) Release three (3) engaged sections and remove the ink cartridge door. (Fig. 2-7)

7. **Paper Door** (Fig. 2-6)

3) Open the paper door and release two (2) engaged sections.

8. **Control Door** (Fig. 2-6)

4) Open the control door and release two (2) engaged sections.

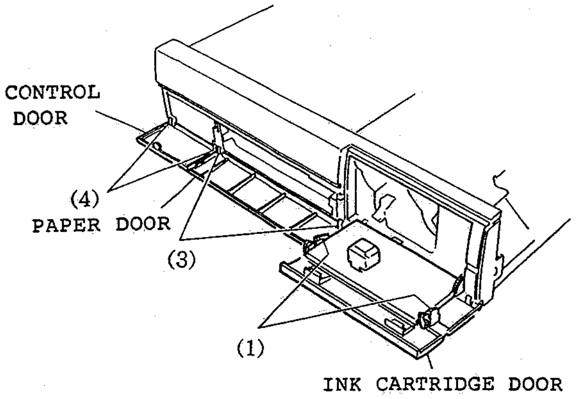


Fig. 2-6 Ink Cartridge Door/Paper Door/ Control Door

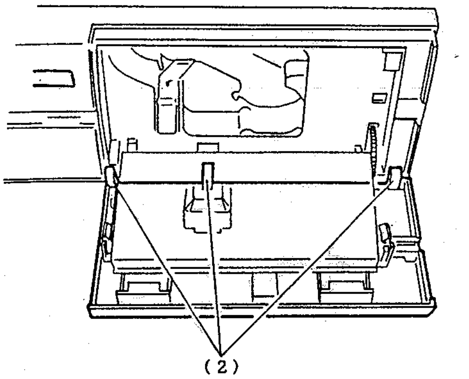


Fig. 2-7 Ink Cartridge Door

9. **Door Damper** (Fig. 2-8)

1) Remove the front panel. (See item 2)
2) Remove two (2) screws holding the door damper.

(Caution when reinstalling)
Reinstall the door damper with the ink cartridge door closed.

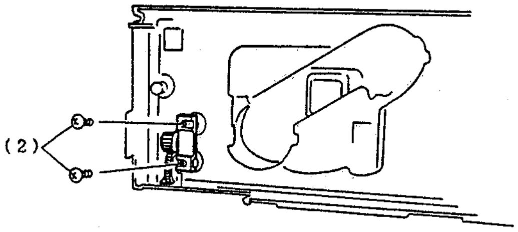


Fig. 2-8 Door Damper

3. CIRCUIT BOARD REMOVAL

* Remove the circuit boards after removing the top cover and front panel. (See items 1 and 2 in the section on case removal.)

1. **F (Front) Circuit Board** (Fig. 3-1)

1) Remove two (2) screws holding the shield cover.
2) Release three (3) stoppers and open the circuit board to the front.
3) Pull the circuit board to the front by about 45° and then pull it out from the S (System) circuit board.

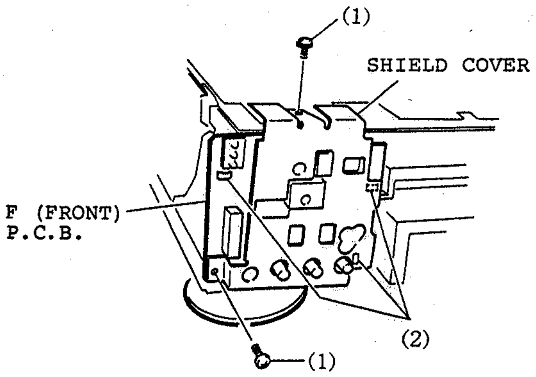


Fig. 3-1 F (Front) Circuit Board

2. **FS (Counter) Circuit Board** (Fig. 3-2)

1) Remove the shield cover. (See item 1)
2) Release two (2) stoppers.

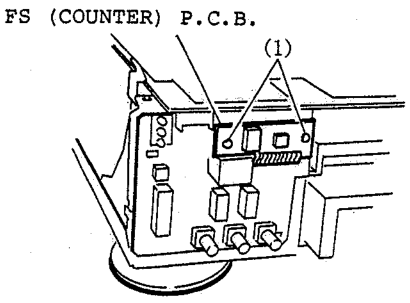


Fig. 3-2 FS (Counter) Circuit Board

3. S (System) Circuit Board
(Figs. 3-3a, 3-3b)

1) Remove the rear cover and rear jack cover. (See items 3 and 4 in the section on case removal.)
2) Open the F (Front) circuit board.
3) Remove two (2) screws holding the circuit board.
4) Release two (2) stoppers and open the circuit board in the direction of the arrow.
5) Turn the P.C.B holder clockwise to fix the circuit board.

(Cautions when reinstalling)
o Turn the P.C.B holder counterclockwise.

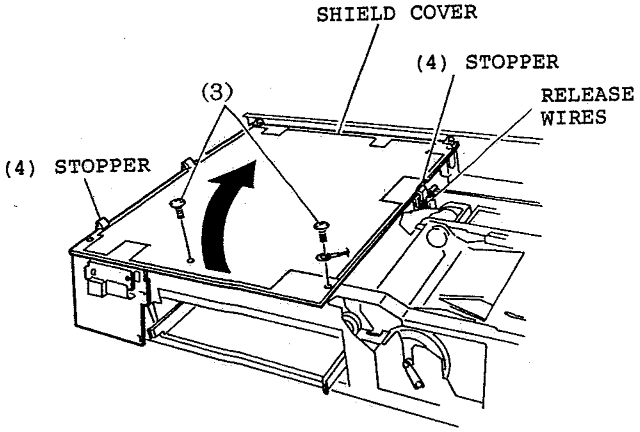


Fig. 3-3a S (System) Circuit Board

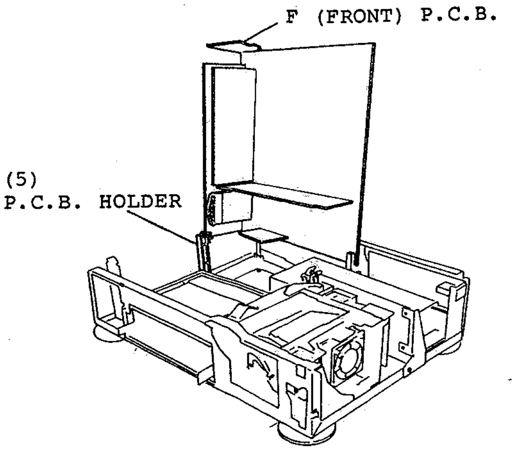


Fig. 3-3b S (System) Circuit Board

4. SWR (Switching Regulator) Circuit Board (Fig. 3-4)

1) Remove the rear cover and rear jack cover. (See items 3 and 4 in the section on case removal.)
2) Remove the S (System) circuit board. (See item 3)
3) Remove four (4) screws holding the SWR (Switching Regulator) circuit board.

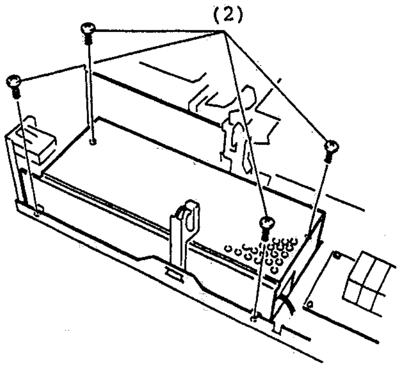


Fig. 3-4 SWR (Switching Regulator) Circuit Board

5. MAD (A/D Conv.) Circuit Board
(Fig. 3-5)

1) Open the S (System) circuit board.
2) Unsolder the section soldered to the S (System) circuit board.

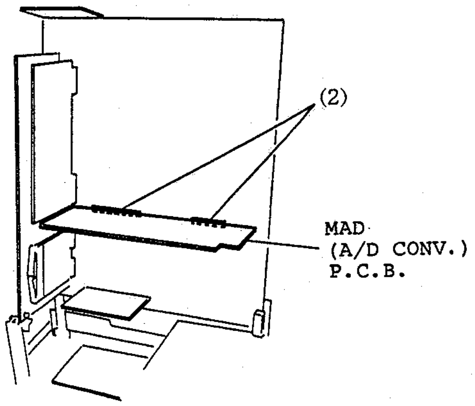


Fig. 3-5 MAD (A/D Conv.) Circuit Board

6. RC (Remote/Character) Circuit Board and EN (Encoder) Circuit Board
(Fig. 3-6)

1) Open the S (System) circuit board.
2) Pull out the RC (Remote/Character) circuit board in the direction of the arrow.
3) Pull out the EN (Encoder) circuit board in the direction of the arrow.

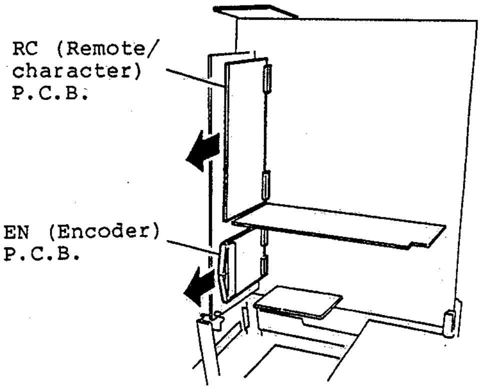


Fig. 3-6 RC (Remote/Character) Circuit Board/EN (Encoder) Circuit Board

7. RGB (RGB Process) Circuit Board (Fig. 3-7) - VY-150E ONLY -

1) Open the S (System) circuit board.
2) Unsolder the section soldered to the S (System) circuit board.

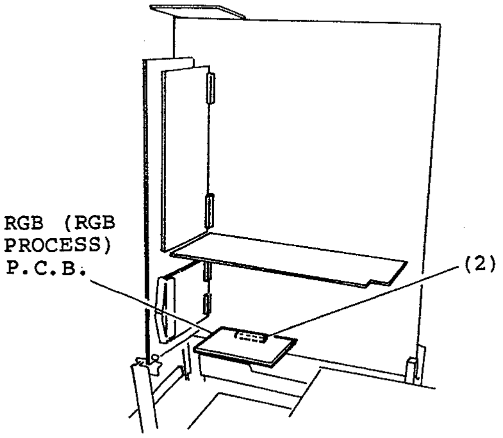


Fig. 3-7 RGB (RGB Process) Circuit Board

8. M (Memory) Circuit Board (Fig. 3-8)

1) Open the S (System) circuit board.
2) Unsolder the section soldered to the S (System) circuit board.

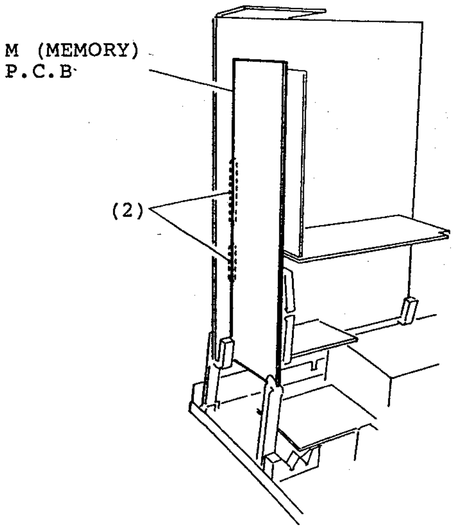


Fig. 3-8 M (Memory) Circuit Board

9. REG (Regulator) Circuit Board (Fig. 3-9)

1) Open the S (System) circuit board.
2) Release four (4) stoppers.

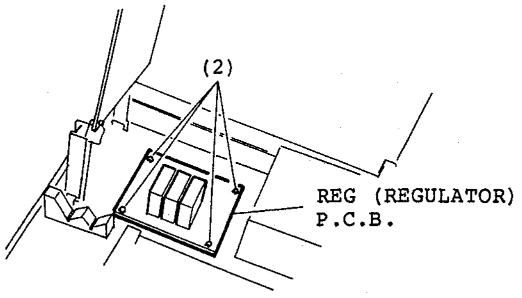


Fig. 3-9 REG (Regulator) Circuit Board

10. MS (Mecha. Control) Circuit Board (Fig. 3-10)

1) Remove one (1) screw holding the side chassis section.
2) Release the stopper and lift up the circuit board.

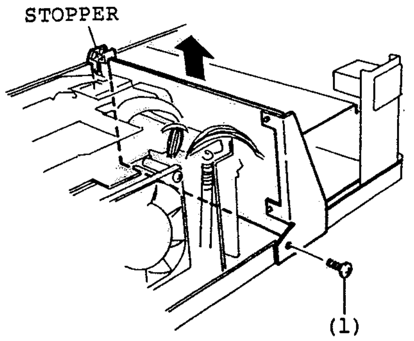


Fig. 3-10 MS (Mecha. Control) Circuit Board

11. R (Rear Jack) Circuit Board (Fig. 3-11)

1) Remove the rear cover and rear jack cover. (See items 3 and 4 in the section on case removal.)
2) Remove eight (8) screws on the rear jack cover.

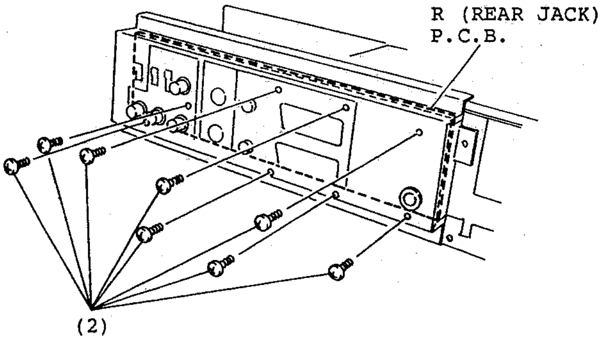


Fig. 3-11 R (Rear Jack) Circuit Board

12. DS (Door Switch) Circuit Board (Fig. 3-12)

1) Remove the mechanism block. (See item 1 in the section on main mechanical components removal.)
2) Remove one (1) screw.

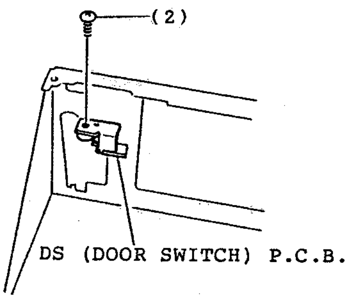


Fig. 3-12 DS (Door Switch) Circuit Board

13. **Print Counter** (Fig. 3-13)

1) Disconnect the connector from the S (System) circuit board.
2) Push out the counter in the direction of the arrow while pushing two (2) stoppers at the top and bottom.

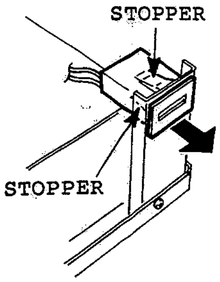


Fig. 3-13 Print Counter

4. MAIN MECHANICAL COMPONENTS REMOVAL

1. **Mechanism Block** (Fig. 4-1)

1) Open the S (System) circuit board. (See item 3 in the section on circuit board removal.)
2) Remove three (3) screws holding the mechanism block.
3) Remove the MS (Mecha. control) circuit board. (See item 10 in the section on circuit board removal.)
4) Remove the circuit board holder.
5) Disconnect the connectors from the S and SWR circuit boards and lift up the whole mechanism block.

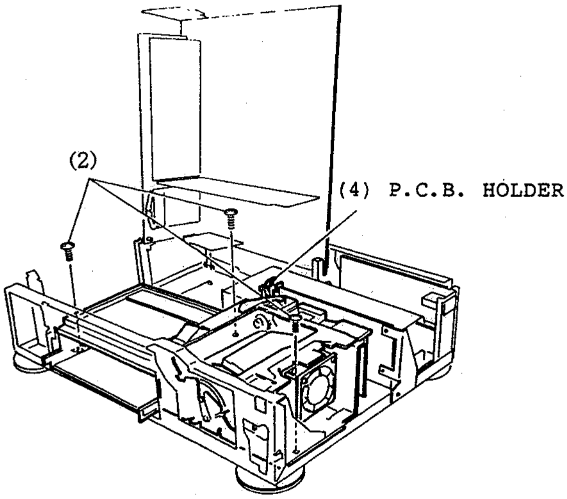
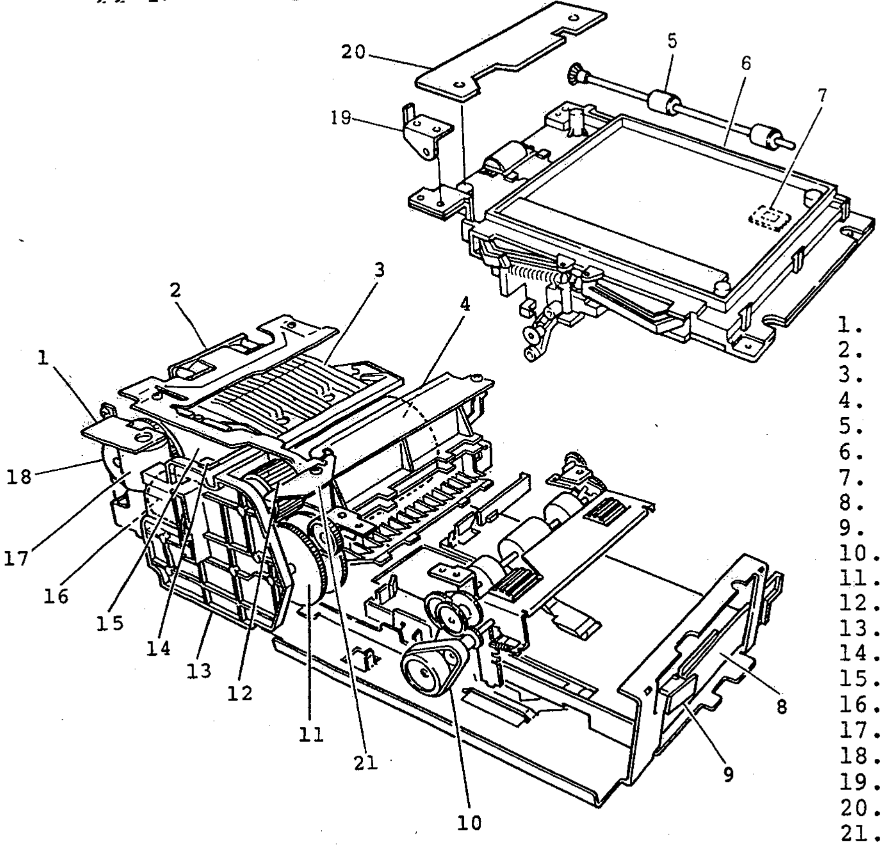


Fig. 4-1 Mechanism Block

2. Names and Locations of Components in Print Mechanism and Paper Supply/Discharge Mechanism



1. Mechanism Mode Switch P.C.B
2. Fan Motor
3. Thermal Head
4. Drum
5. B Roller (Shaft)
6. Paper Discharge Holder
7. Paper Sensor 2 P.C.B
8. Paper Supply Holder
9. Tray Switch P.C.B
10. Paper Supply Belt
11. Clutch Gear
12. Take-up Reel Disk
13. Reel Chassis Assembly
14. Motor/FG Sensor P.C.B
15. Mechanism Sensor P.C.B
16. Drum Motor
17. Mode Motor
18. Mechanism Mode Switch
19. Clamp Bracket
20. KH P.C.B
21. RC Clamp Plate

Fig. 4-2 Print Mechanism and Paper Supply Mechanism

3. Major Mechanical Components Removal

1. Paper Discharge Holder Assembly/ KH P.C.B (Fig. 4-3)

1) Remove the spring.
2) Remove two (2) screws and lift up the KH circuit board.
3) Remove four (4) screws holding the clamp brackets.
4) Remove the paper discharge holder.

3) Release three (3) stoppers and lift tray (A).

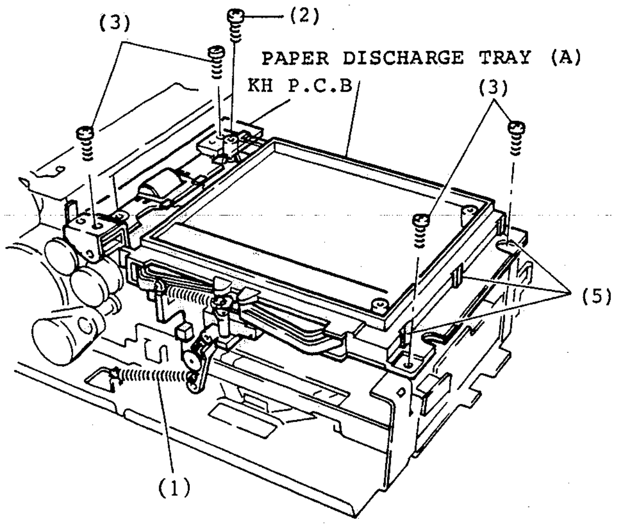


Fig. 4-3

2. Paper Discharge Tray (A) (Fig. 4-3)

5) Release three (3) stoppers and lift tray (A).

3. B Roller Assembly (Fig. 4-4)

6) Release two (2) engaged sections of the roller shaft.

4. Paper Discharge Roller (Fig. 4-4)

7) Remove the paper discharge roller.
8) Release two (2) stoppers and remove the paper discharge roller clamp spring.

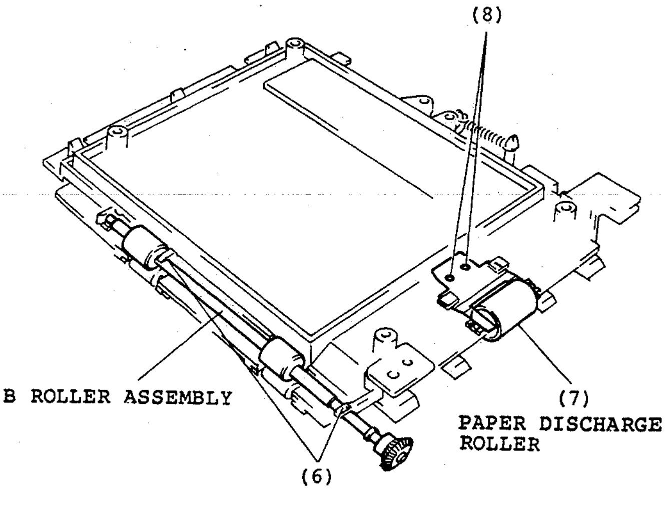


Fig. 4-4

5. **Paper Discharge Lever** (Fig. 4-5)

7) Remove the washer and pull out the lever.

6. **Paper Discharge Arms (L), (R)** (Fig. 4-5)

8) Remove the spring.
9) Release the stopper of the arm rotation axis and pull out the arm upwards.

(Caution when reinstalling)

° Align the markings on the connection gears of paper discharge arms (L) and (R).

7. **Auxiliary Roller** (Fig. 4-5)

10) Remove the auxiliary roller.
11) Release two (2) stoppers and remove the auxiliary roller clamp spring.

(Caution when reinstalling)

° Do not deform the clamp spring.

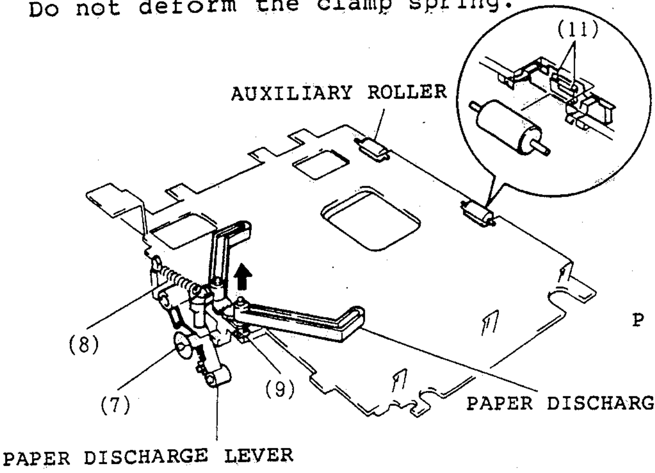

(11)
AUXILIARY ROLLER
(8)
(7)
(9)
PAPER DISCHARGE ARM
PAPER DISCHARGE LEVER

Fig. 4-5

8. **Paper Supply Mechanism** (Fig. 4-6)

1) Remove the spring.
2) Remove one (1) screw.
3) Lift the entire mechanism, taking care of the engaged sections.

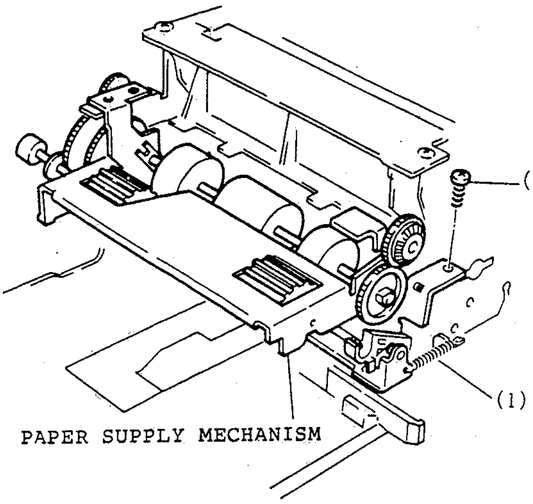

(2)
(1)
PAPER SUPPLY MECHANISM

Fig. 4-6

9. **P Roller Assembly/Reset Arm** (Fig. 4-7)

4) Remove the spring.
5) Release two (2) stoppers (on the left and right) of the roller bearings and remove the P roller assembly and reset arm.
6) Separate the P roller assembly and reset arm.

(Caution when reinstalling)

° After reinstalling the roller bearings, fix them with bond.

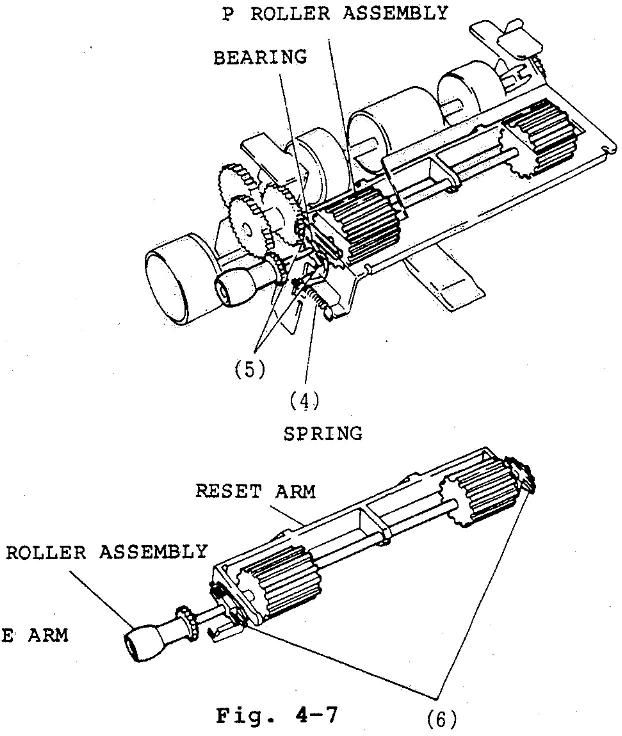

P ROLLER ASSEMBLY
BEARING
(5)
(4)
SPRING
RESET ARM
P ROLLER ASSEMBLY
(6)

Fig. 4-7

10. **Relay Gear** (Fig. 4-8)

7) Remove the washer and pull out the relay gear.

11. **F Roller Assembly** (Fig. 4-8)

8) Release the stopper of the F roller shaft axis and remove the gears on the left and right.
9) Release two (2) stoppers (on the left and right) of the F roller bearing and remove the F roller assembly.

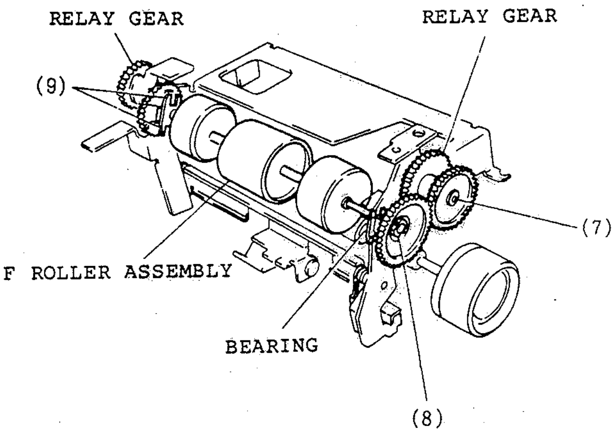

RELAY GEAR
RELAY GEAR
(9)
(7)
F ROLLER ASSEMBLY
BEARING
(8)

Fig. 4-8

12. B Roller Assembly/Paper Supply Arm Assembly/Paper Marker Sensor P.C.B (Fig. 4-9)

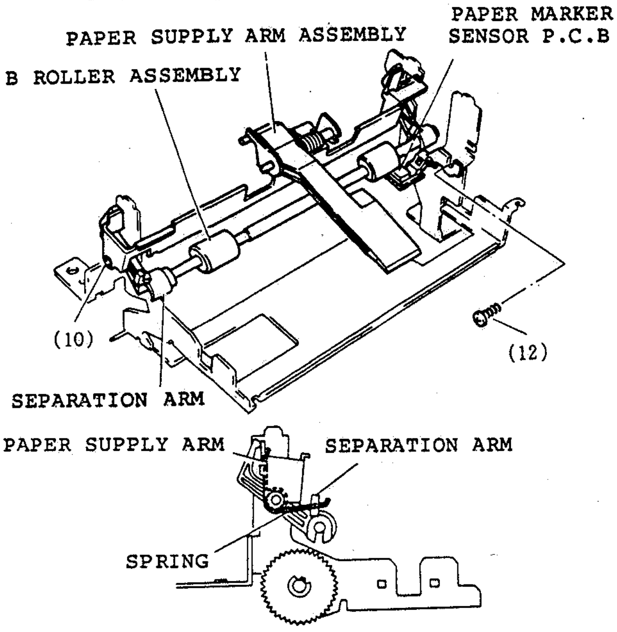
10) Remove the washer and then the paper supply arm assembly.

(Caution when reinstalling)

° When reinstalling the paper supply arm, put the spring onto the installation axis and hook one end of the spring to the separation arm and the other end to the paper supply arm.

11) Remove the separation arm from the installation axis and then remove the B roller assembly.

12) Remove the screw holding the paper marker sensor P.C.B. (Remove the wire retainer.)


PAPER MARKER SENSOR P.C.B
PAPER SUPPLY ARM ASSEMBLY
B ROLLER ASSEMBLY
(10)
(12)
SEPARATION ARM
PAPER SUPPLY ARM
SEPARATION ARM
SPRING

- How to hook the spring -

Fig. 4-9

13. Reel Chassis Assembly and Roller Gear (Fig. 4-10)

1) Remove four (4) screws and the RC clamp plate. Remove the entire reel chassis assembly, taking care of the gears.

2) Remove the washer and pull out the roller gear.

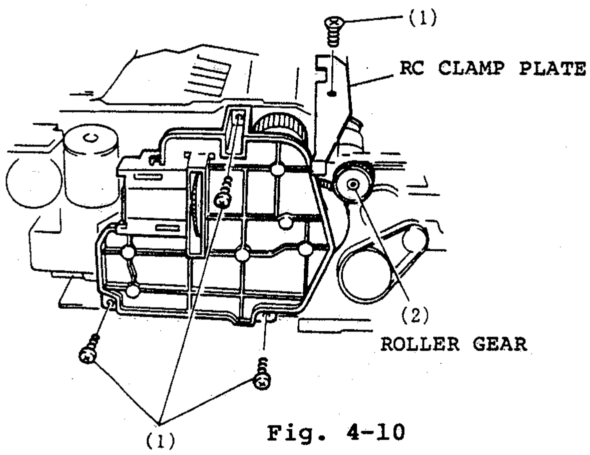

(1)
RC CLAMP PLATE
(2)
ROLLER GEAR
(1)

Fig. 4-10

14. Clutch Gear, D Worm Gear, Take-up Reel Disk and Supply Reel Disk (Fig. 4-11)

3) Remove the cap and pull out the clutch gear.

(Caution when reinstalling)

° The clutch gear has two teeth. Attach the spring between them.

4) Remove the washer and pull out the D worm gear.

5) Remove the washer and pull out the take-up reel disk.

6) Release the stopper and pull out the supply reel disk.

15. S Lock Arm (Fig. 4-11)

7) Remove the spring.

8) Release the stopper on the back and remove the S lock arm.

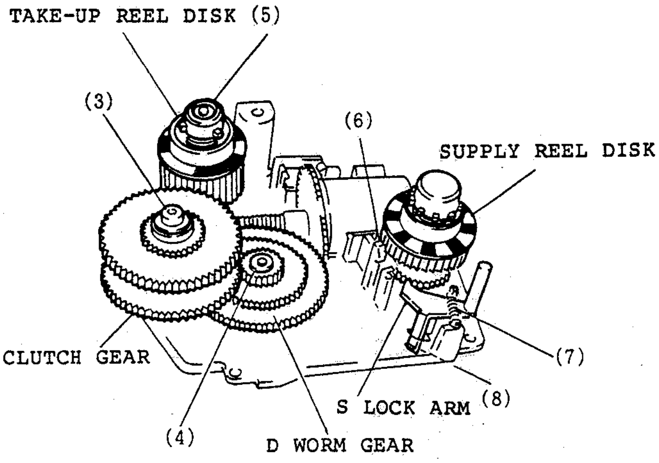

TAKE-UP REEL DISK (5)
(3)
(6)
SUPPLY REEL DISK
(7)
CLUTCH GEAR
S LOCK ARM (8)
(4)
D WORM GEAR

Fig. 4-11

16. Drum Motor, Motor/FG Sensor P.C.B (Fig. 4-12)

9) Remove the idler gear.

10) Release two (2) stoppers and remove the motor/FG sensor P.C.B

11) Release two (2) bosses and two (2) stoppers of the motor, then remove the drum motor.

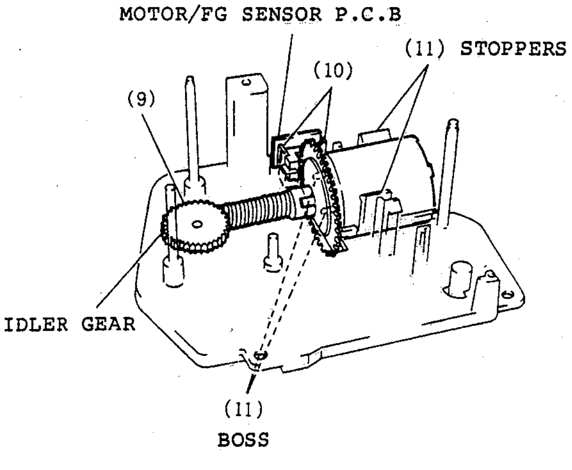

MOTOR/FG SENSOR P.C.B
(11) STOPPERS
(10)
(9)
IDLER GEAR
(11)
BOSS

Fig. 4-12

17. Mode Motor/Mechanism Mode Switch Assembly, Mode Gear and Worm Gear
(Figs. 4-13,14,15)

1) Remove two (2) screws holding the mode motor/mechanism mode switch assembly.
2) The mode gear and worm gear can be removed in this condition.

(Cautions when reinstalling)

° Aligning the gears:
  1) Insert the mode gear so its round hole is positioned as shown in Fig. 4-14 when slide arm (A) is set to position (A).
  2) Separate the mode gear slightly from the unit and lift the thermal head gradually. Check that the thermal head mode pin is caught by the groove at the back of the gear.
  3) Turn the mode gear in this state and check that the thermal head and slide arm operate.

° Attaching the mechanism mode switch:
  1) Reinstall the mechanism mode switch so the arrow at the centre of the switch points in the direction of "1" when the slide arm is set to position (A).

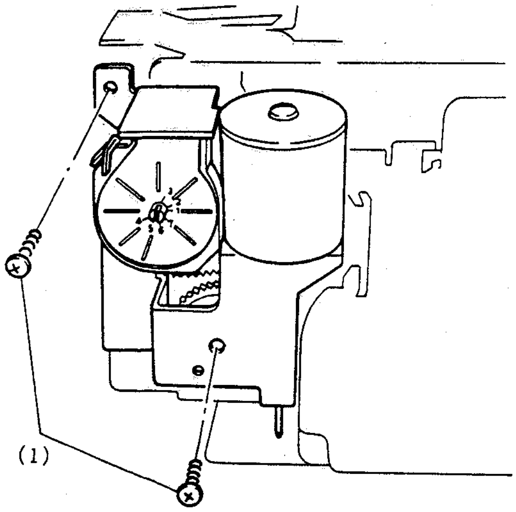


Fig. 4-13

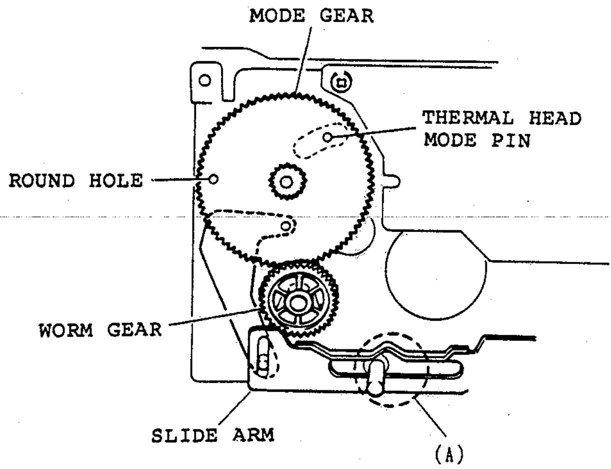


Fig. 4-14 Aligning the Gears

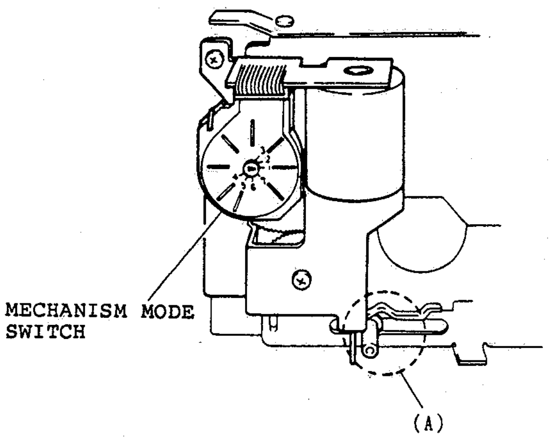


Fig. 4-15 Attaching the Mechanism Mode Switch

18. Mechanism Sensor and Ink Cassette Switch P.C.Bs (Fig. 4-16)

1) Remove the reel chassis assembly. (See item 13)
2) Remove the mode motor/mechanism mode switch assembly and mode gear. (See item 17)
3) Remove four (4) screws holding the top frame.
4) Remove three (3) screws and pull up the mechanism sensor and ink cassette switch P.C.Bs to remove them.

(Caution when reinstalling)

° Reinstall the mechanism sensor P.C.B in the condition that the drum gear is removed. (See item 23)

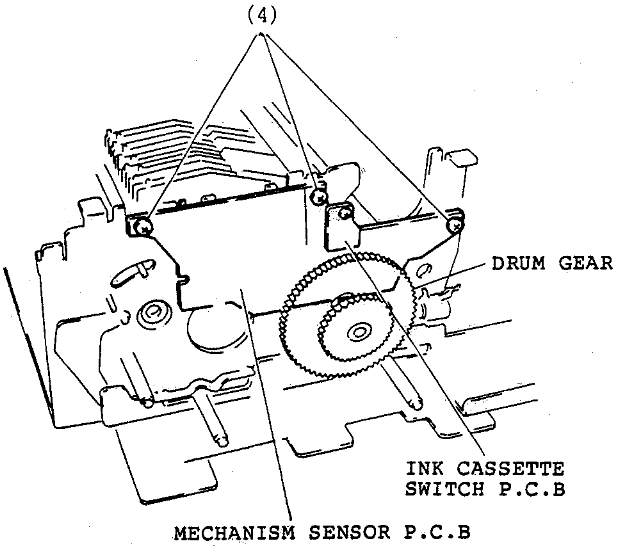


Fig. 4-16

19. Tray Switch P.C.B and Tray Guide
(Fig. 4-17)

1) Remove one (1) screw holding the tray switch P.C.B.
2) Remove the paper supply mechanism. (See item 8)
3) Remove two (2) screws.
4) Slide the entire tray guide in the direction of the arrow to remove it.

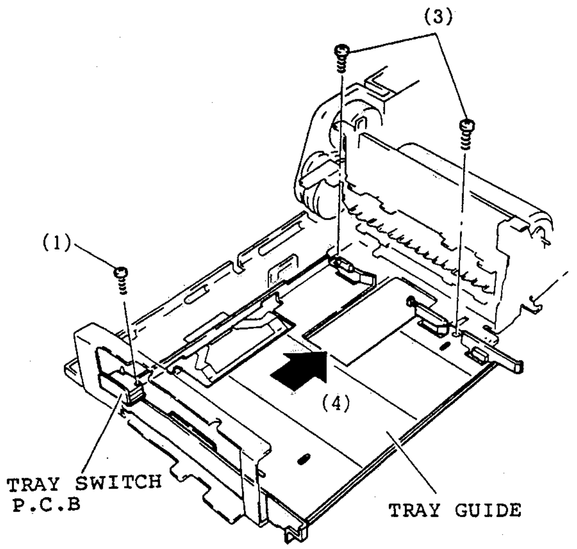

(3)
(1)
(4)
TRAY SWITCH P.C.B
TRAY GUIDE

Fig. 4-17

20. Fan Motor (Fig. 4-18)

1) Remove two (2) screws.

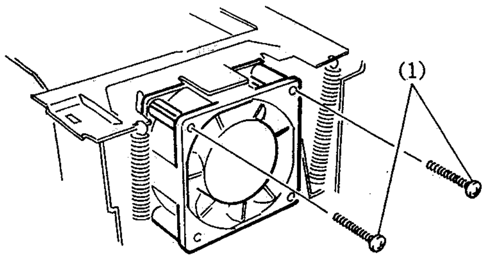


Fig. 4-18

21. Thermal Head and Ink Marker Sensor P.C.B, Head Arm Assembly and Sensor Holder (Figs. 4-19, 4-20)

1) Disconnect three (3) connectors on the mechanism sensor P.C.B.
2) Remove four (4) screws holding the top frame and remove the springs.
3) Remove two (2) screws holding the heat sink.
4) Disconnect three (3) connectors from the thermal head.
5) Remove four (4) screws holding the thermal head.
6) Release the stoppers on both sides of the sensor holder and remove the sensor holder and ink marker sensor P.C.B.
7) Remove the thrust support and slide the head arm assembly in the direction of the arrow to remove it.

(Cautions when reinstalling)

- One spring removed in step 1) is marked green. Do not confuse the springs on the left and right.
- Hold the thermal head with your hand when removing the screws from the heat sink and head.
- Do not touch the wire bonded section (see Fig. 4-21) when holding the thermal head with your hand because it could cause a fault.
- Coat the four (4) screws holding the thermal head with screw locking compound.

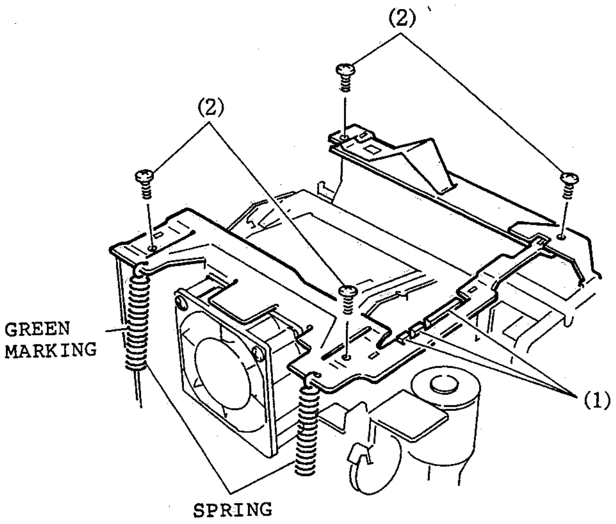

(2)
(2)
GREEN MARKING
(1)
SPRING

Fig. 4-19

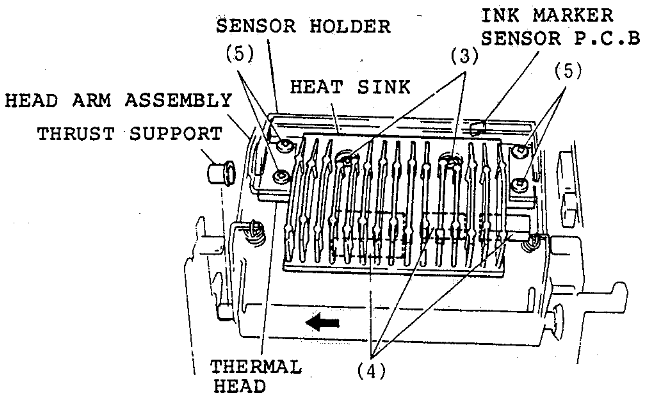

SENSOR HOLDER
INK MARKER SENSOR P.C.B
(5)
(3)
(5)
HEAT SINK
HEAD ARM ASSEMBLY
THRUST SUPPORT
THERMAL HEAD
(4)

Fig. 4-20

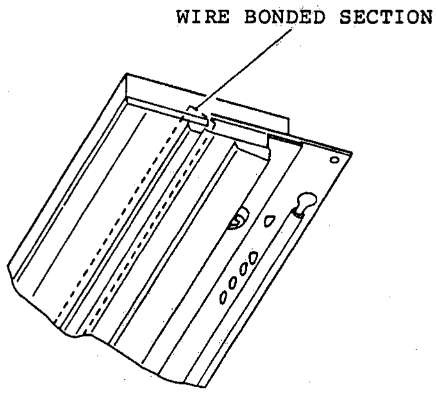

WIRE BONDED SECTION

Fig. 4-21

22. Paper Discharge Guide, PC Guide and Main Guide (Figs. 4-22, 4-23)

1) Remove the top frame and reel chassis assembly. (See item 13)
2) Release two (2) engaged sections with the side chassis and pull out the paper discharge guide upward.
3) Remove the head arm assembly. (See item 21)
4) Release two (2) stoppers on the bottom of the mechanism and pull out the PC guide upward.
5) Remove two (2) screws on the bottom of the mechanism and remove the main guide.

(Cautions when reinstalling)
- There are positioning tabs on both sides of each guide. Attach the tabs to the bosses (projections) of the side chassis section. (Fig. 4-24)
- After installing the main guide, bond the positioning tabs. (Fig. 4-25)

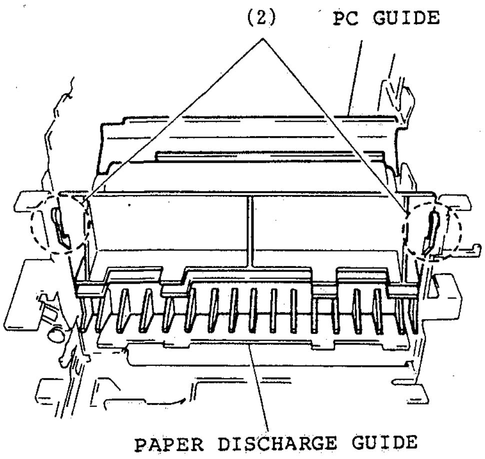

(2)
PC GUIDE
PAPER DISCHARGE GUIDE

Fig. 4-22

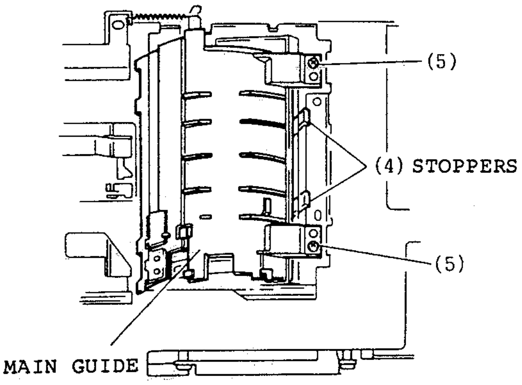

(5)
(4) STOPPERS
(5)
MAIN GUIDE

Fig. 4-23

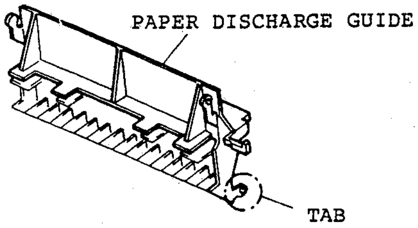

PAPER DISCHARGE GUIDE
TAB

Fig. 4-24

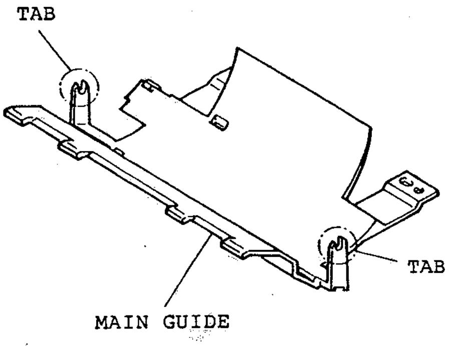

TAB
TAB
MAIN GUIDE

Fig. 4-25

23. Drum Gear, Drum Assembly and Drum Bearing (Fig. 4-26)

1) Remove the paper supply mechanism. (See item 8)
2) Remove the reel chassis assembly. (See item 13)
3) Remove the mode motor/mechanism mode switch assembly and mode gear. (See item 17)
4) Remove the mechanism sensor P.C.B. (See item 18)
5) Remove the head arm assembly. (See item 21)
6) Remove the paper discharge guide and PC guide. (See item 22)
7) Loosen the hexagonal screw and remove the drum gear.
8) Remove the conical spring.
9) Release two (2) stoppers on both sides of the drum bearing and lift the drum assembly upwards.

(Cautions when reinstalling)
- Tighten the hexagonal screw from the opposite surface to the shaft D cut surface of the drum assembly. (Fig. 4-27)

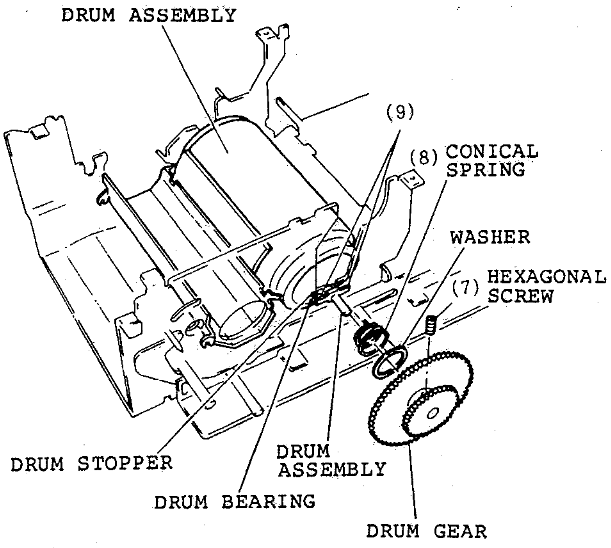

DRUM ASSEMBLY
(9)
(8) CONICAL SPRING
WASHER
(7) HEXAGONAL SCREW
DRUM STOPPER
DRUM ASSEMBLY
DRUM BEARING
DRUM GEAR

Fig. 4-26

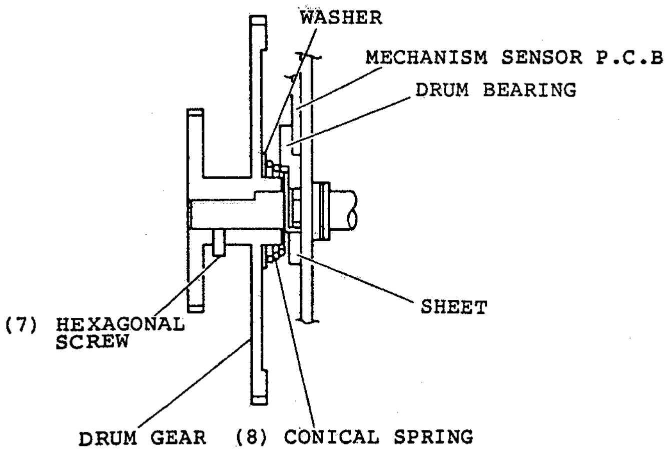

WASHER
MECHANISM SENSOR P.C.B
DRUM BEARING
SHEET
(7) HEXAGONAL SCREW
DRUM GEAR
(8) CONICAL SPRING

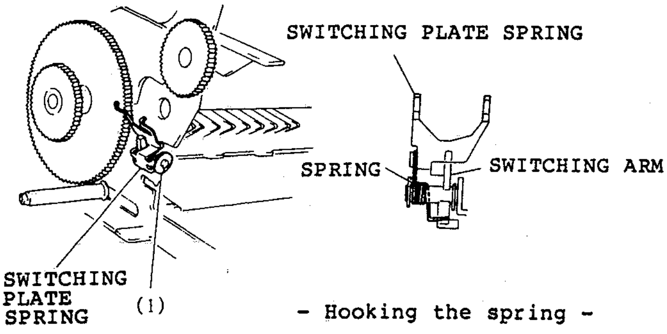
Fig. 4-27

24. Switching Plate Spring (4-28)

1) Remove the washer and pull out the spring.

(Hooking the spring)

- Attach the spring to the switching arm and hook one end to the switching plate spring and the other end to the arm.


SWITCHING PLATE SPRING
SPRING
SWITCHING ARM
SWITCHING PLATE SPRING
(1)

- Hooking the spring -

Fig. 4-28

25. Slider, K Arm and Drum Lock Arm (Fig. 4-29)

1) Remove the spring and the drum lock arm.
2) Remove the E ring.
3) Slide the slider in the direction of the arrow and remove it to the front.
4) Remove the K arm downward.

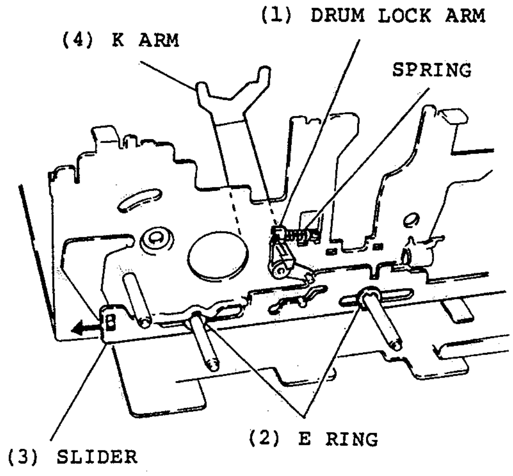

(1) DRUM LOCK ARM
(4) K ARM
SPRING
(2) E RING
(3) SLIDER

Fig. 4-29

1. PERIODICAL CLEANING AND INSPECTION OF PRINT MECHANISM

●: Replace ▼: Lubricate ■: Clean and Inspect

Components to be cleaned and inspected	Details	Standard Frequency (No. of prints)	Remarks	Diagram	
				Cleaning/ replacing method	Major components removal
1. Paper supply belt (Rubber section)	■	5,000		Fig. 1	
2. P roller (rubber roller in paper supply system)	■ ●	5,000 (Replace after 20,000		Fig. 1	Fig. 6
3. F roller (rubber roller in paper supply/discharge systems)	■	5,000		Fig. 1	
4. Drum	■	5,000		Figs. 2, 5	
5. Thermal head	■ ●	----- (Replace after 5,000)	Clean Paper made by Hitachi 5,000 prints Paper made by Kodak 1,000 prints	Fig. 3	Figs. 18, 19
6. B roller (rubber roller in paper discharge system)	■	5,000		Fig. 4	
7. Main guide	■	5,000		Figs. 5, 6	
8. Paper discharge guide	■	10,000		Fig. 7	
9. PC guide	■	10,000		Figs. 8, 9	
10. Drum worm	▼	5,000		See "Lubricating location diagram" for lubrication.	Figs. 10, 11
11. Paper supply arm	▼●	20,000		"	Fig. 8
13. Mode gear	▼●	5,000		"	Fig. 12
14. Mode motor worm gear	▼	5,000		"	
15. Slider	▼	10,000		"	
16. Clutch gear	▼	10,000		"	

2. CLEANING AND REPLACEMENT OF MAJOR MECHANICAL COMPONENTS

1. Cleaning the Major Mechanical Components

1-1 Cleaning the rubber section of the paper supply mechanism (Possible defect: Unstable paper supply and discharge) (Fig. 1)

1) Remove the top cover and front panel. (See CASE REMOVAL in CHAPTER 2)
2) Remove the paper discharge holder. (See MAJOR MECHANICAL COMPONENTS REMOVAL in CHAPTER 2)
3) Clean the paper supply belt, P roller and F roller using a cotton swab moistened with industrial alcohol.
   Caution: It is necessary to replace the P roller if it is worn.

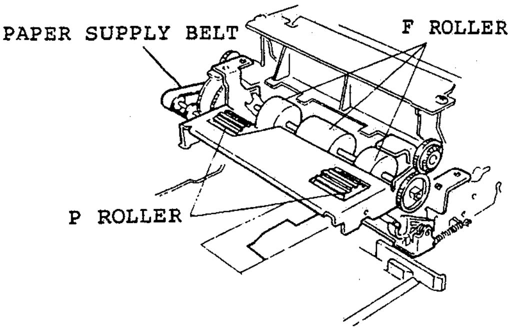


Fig. 1

1-2 Cleaning the drum (Possible defect: Paper moves obliquely or paper is not supplied or discharged) (Fig. 2)

1) Insert a cotton swab moistened with industrial alcohol into the ink cassette inlet.
2) Turn the drum with your fingers and clean the surface of the rubber.
   Be careful that force is not applied to the chuck arm (black) on the external circumference of the drum.

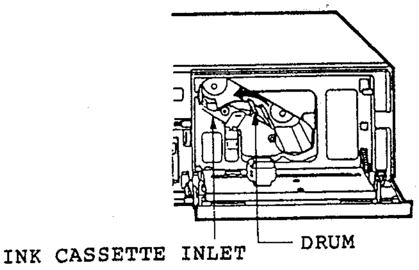


Fig. 2

1-3 Cleaning the thermal head (Possible defect: Stripes will occur in the print due to dust) Fig. 3)

1) Remove the top cover. (See CASE REMOVAL CHAPTER 2)
2) Apply a small amount of industrial alcohol to the head cleaning jig and clean the surface of the thermal head.

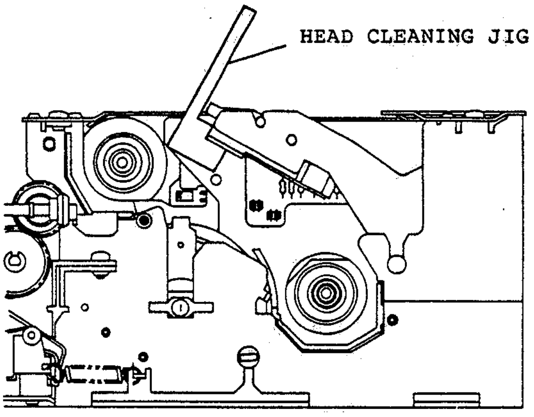


Fig. 3

1-4 Cleaning the B roller (Possible defect: Unstable paper discharge operation) (Fig. 4)

1) Remove the top cover and front panel. (See CASE REMOVAL in CHAPTER 2)
2) Remove the paper discharge roller from the paper discharge holder and clean the roller using a cotton swab moistened with industrial alcohol.

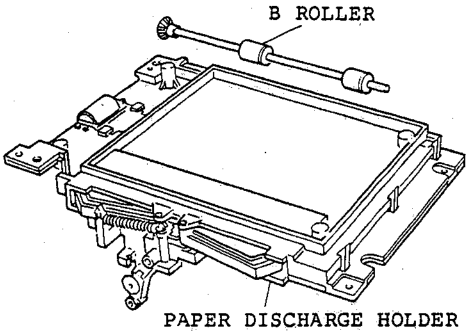


Fig. 4

1-5 Paper Transport System (Possible defects: Paper moves obliquely, skew occurs and paper supply operation is unstable (the paper supply mechanism operates normally))

(1) Cleaning the main guide (Figs. 5, 6)

1) Remove the bottom guide. (See CASE REMOVAL in CHAPTER 2)
2) Remove two (2) screws holding the main guide.
3) Turn the drum with your fingers and clean the surface of the rubber (in the same way as in "1-2. Cleaning the drum")

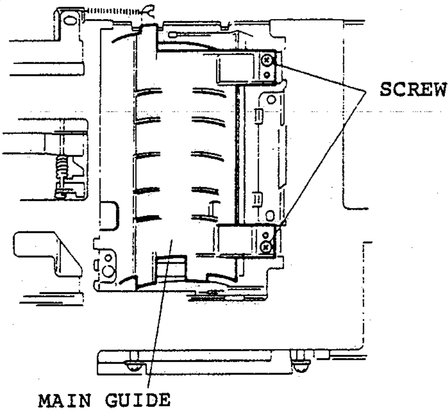


Fig. 5

4) Clean the paper transport surface inside the main guide using a cotton swab moistened with industrial alcohol.

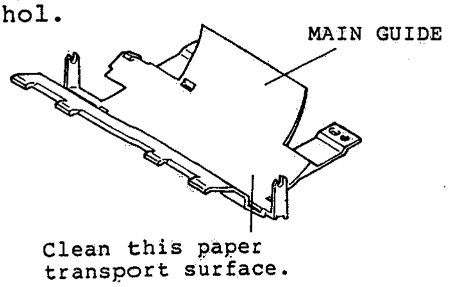
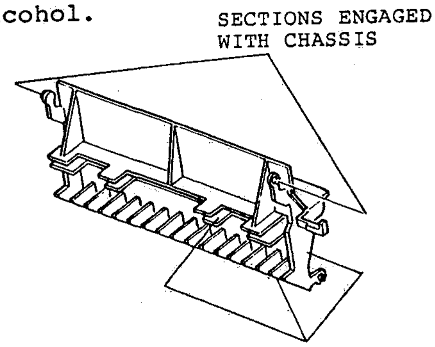


Fig. 6

(2) Cleaning the paper discharge guide (Fig. 7)

1) Remove the top frame. (See item 21 in the section on MAIN MECHANICAL COMPONENTS REMOVAL)
2) Remove the paper discharge holder and paper supply mechanism.
3) Remove the reel chassis assembly. (See item 21 in the section on MAIN MECHANICAL COMPONENTS REMOVAL)
4) Release the paper discharge guide from the chassis on the left and right and pull it out upward.
5) **Clean the paper transport surface of the paper discharge guide using a cotton swab moisted with industrial alcohol.**



Clean this paper transport surface.

Fig. 7

(3) Cleaning the PC guide (Figs. 8, 9)

1) Release two (2) stoppers at the bottom of the mechanism and remove the PC guide.
2) Clean the paper transport surface of the PC guide.

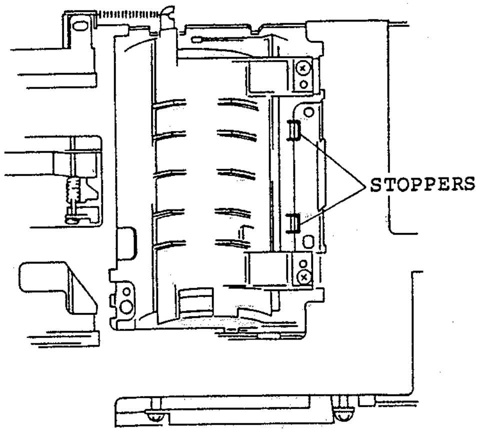


Fig. 8

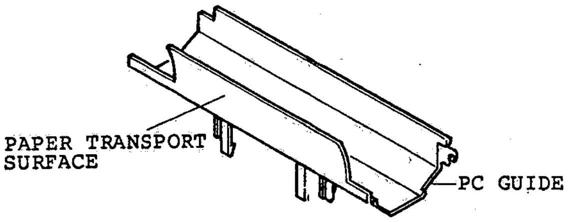


Fig. 9

2. Removing and Reinstalling the Main Replacement Components of the Mechanism

2-1 Replacing the drum worm gear, clutch gear and supply reel disk and checking the take-up reel disk (Fig. 10)

1) Remove the reel chassis assembly. (See item 3 in the section on MAIN MECHANICAL COMPONENTS REMOVAL)
2) Remove the cap which is pressed against the top of the clutch gear.
3) Remove the clutch gear.
4) Remove the drum worm gear. Coat the circumference of new gear with froil and install it.
5) Check the take-up reel disk at this time.
   A) Move the disk up and down. If it moves slightly (0.5 mm backward and forward), it is acceptable.
   B) When it strikes the washer and does not move, replace it. (Remove the washer on the reel disk.)
6) Coat the circumferences of each gear with froil.
7) Reinstall the components by the reverse procedure to removal.

2-2 Refer to "MAIN MECHANICAL COMPONENTS REMOVAL" for the replacement of other components.

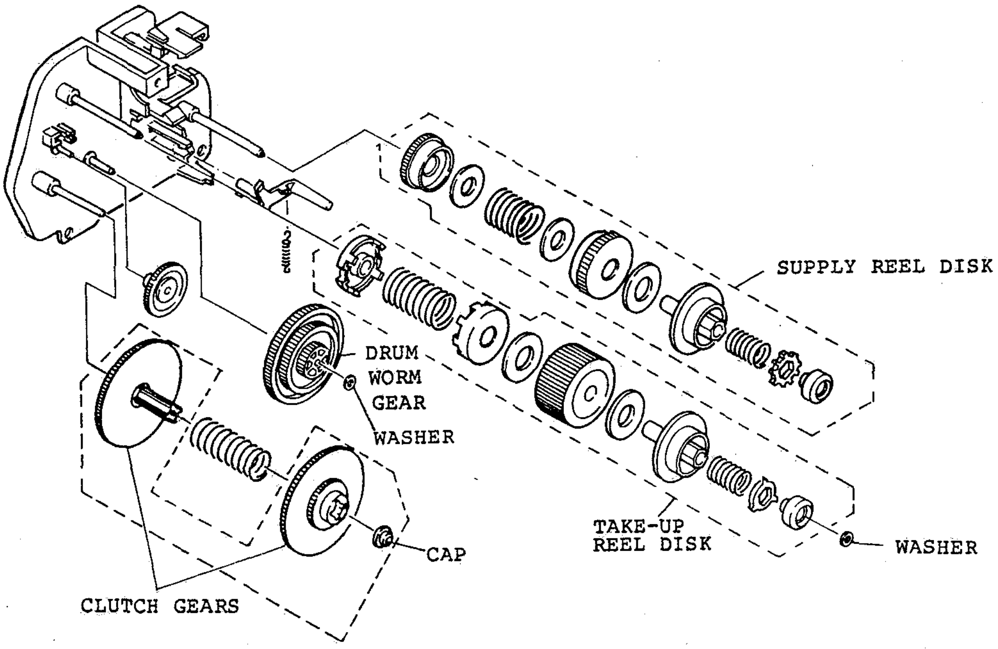


Fig. 10

3. LUBRICATING MAJOR MECHANICAL COMPONENTS

3-1 Lubrication Procedure

Lubricate with one or two drops of oil (Sonic Slidas oil) using an oiler. If lubricated too much, oil may leak onto other components, causing trouble such as slipping of the rotating sections. If lubricated too much or oil leaks, wipe it off using gauze moistened with industrial alcohol.

3-2 Greasing Procedure

Apply grease (froil, Hitazol) using a stick or a brush. Be careful that excessive grease does not adhere to the rubber roller or paper guide. If it does, wipe it off using gauze moistened with alcohol.

3-3 Lubrication and time for coatig

Lubricate or grease the specified sections when a predetermined number of prints have been printed. If oil runs short, an abnormal sound may be heard and components will be worn, causing a malfunction.

ELECTRICAL CIRCUIT ADJUSTMENT

Test equipment necessary for adjustment

1) Dual trace oscilloscope
   o Bandwidth: 10MHz or higher
   o Probe : 10:1
2) Colour bar generator
3) Frequency counter
4) Vectorscope
5) DC voltmeter
6) Monitor TV

Test equipment connections

Connect test equipment as shown in the diagram on the right if no special instructions are given.

1) Connect a colour bar generator to the VIDEO IN jack on the rear of the printer.
2) Connect a monitor TV to the VIDEO OUT jack of the printer.

Servicing position

Set the circuit boards by the following procedure when servicing.

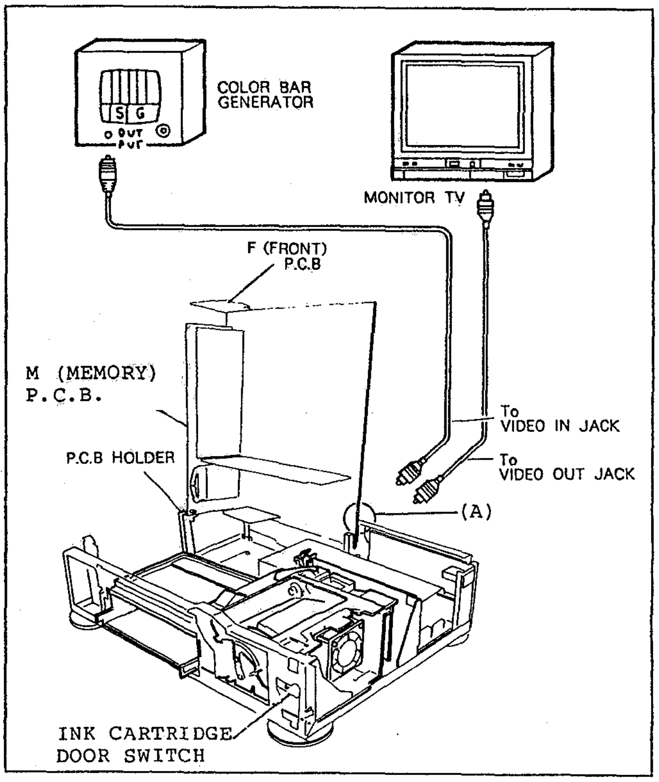
Adjustment can also be done from the S (System) circuit board without setting to the servicing position.

1) Remove the top cover and front panel.
2) Open the F (Front) circuit board.
3) Open the S (System) circuit board.
4) Turn the P.C.B. holder clockwise to fix it with the M (Memory) circuit board.

Caution: Be careful that section (A) of the rear panel is not shorted to the S (System) circuit board.

Set the switches and controls as follows for adjustment

1) OPERATE: ON
2) PRINT MODE switch: NORM
3) NEGA/POSI Switch: POSI Position
4) INPUT Select Switch: EXT Position
5) Controls on front panel
   BRIGHT
   CONTRAST Centre click positions
   COLOUR
6) Ink cartridge: Do not load.
7) Rear Switches:
   INPUT select .... PAL position
   75-ohm .... 75 position
   SYNC select .... NEGA position
8) Warm up the unit for about two minutes after the power is switched on.
9) Turn RT616 fully clockwise viewed from the solder side of the S (System) circuit board.



Setting the mode for adjustment

The following shows how to set the mode indicated in the adjustment column.

o Through mode:
  State in which all LEDs on the S (System) circuit board are off.

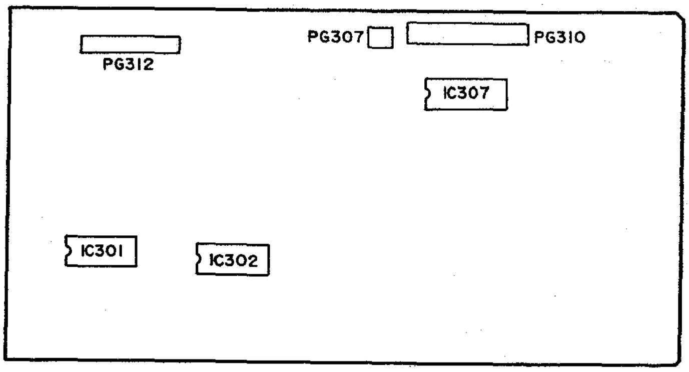
o Still mode:
  State in which the picture in memory is output by pressing the MEMORY switch (SW608) and then the MONITOR select switch (SW609). (Only the MONITOR LED (LED609) lights.)

o D through mode:
  State in which the DATA switch (SW604) is pressed. (Only the DATA LED (LED604) lights.)

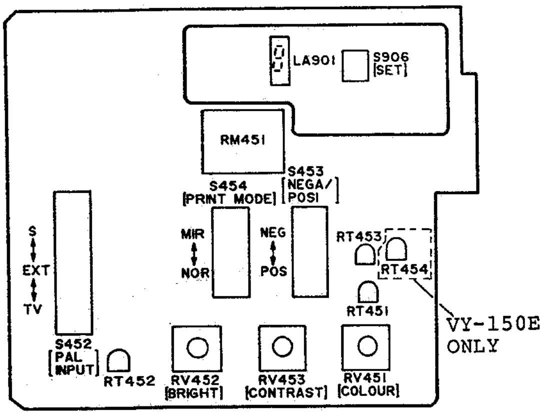
Adjustment parts locations on circuit boards

1) MS (Mecha. Control) circuit board

(Component Side)

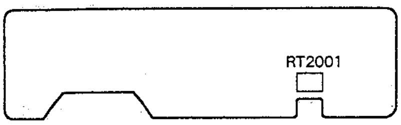


2) F (Front) circuit board
(Component Side)

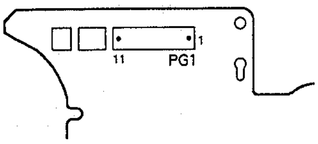


LA901
S906 [SET]
RM451
S453 [NEGA/POSI]
S454 [PRINT MODE]
S
EXT
TV
MIR
NOR
NEG
POS
RT453
RT454
RT451
VY-150E ONLY
S452 [PAL INPUT]
RT452
RV452 [BRIGHT]
RV453 [CONTRAST]
RV451 [COLOUR]

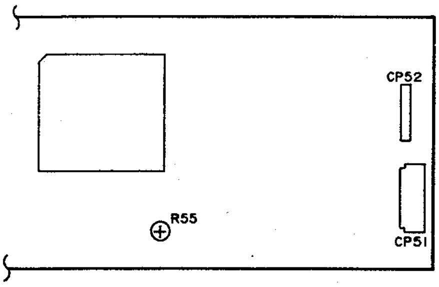
4) KH Circuit board (Solder side)



5) Mechanism Sensor Circuit Board (Solder side)



6) SWR (Switching Regulator) Circuit board (Component Side)

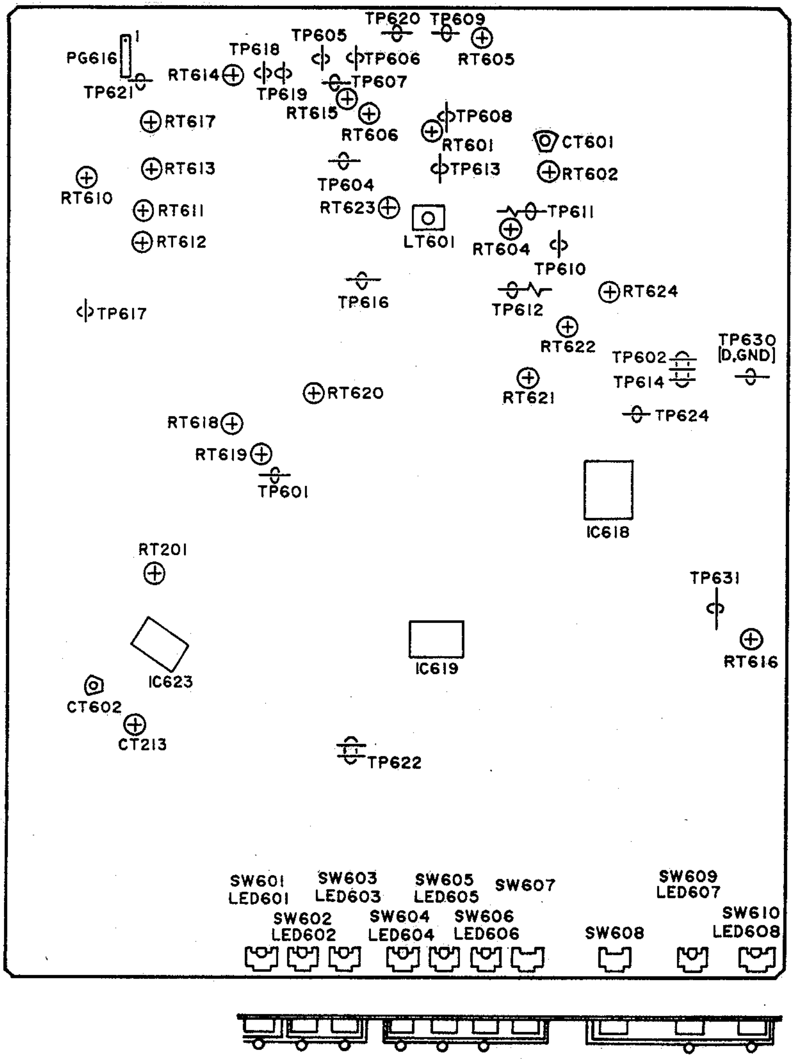


CP52
R55
CP51

Setting the reference signal

Since the video signal output from a colour bar generator is used as the reference signal, adjust the output level of the oscilloscope so this video output level is within the specification.

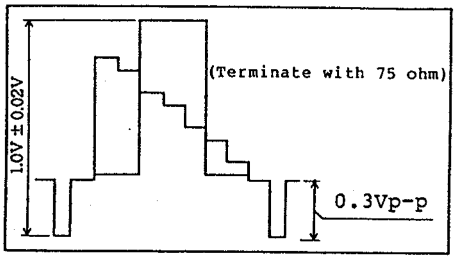
3) S (System) circuit board
(Solder side)



TP620
TP609
TP605
TP618
PG616
1
RT605
TP606
RT614
TP621
TP619
TP607
RT617
RT615
TP608
RT606
RT601
CT601
RT613
TP613
RT602
RT610
TP604
RT611
RT623
TP611
LT601
RT612
RT604
TP610
TP616
RT624
TP617
TP612
RT622
TP630 [D.GND]
TP602
TP614
RT620
RT621
TP624
RT618
RT619
TP601
IC618
RT201
TP631
RT616
IC623
IC619
CT602
CT213
TP622
SW601
LED601
SW603
LED603
SW605
LED605
SW607
SW609
LED607
SW602
LED602
SW604
LED604
SW606
LED606
SW608
SW610
LED608

(Setting the luminance component)

Connect the output of the colour bar generator directly to the oscilloscope and set so the signal level is as shown in the diagram below. (Terminated with 75 ohm)



1.0V ± 0.02V
(Terminate with 75 ohm)
0.3Vp-p

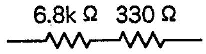
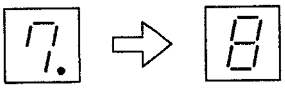
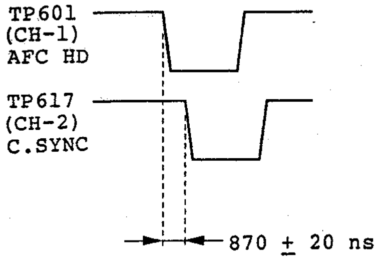
(Setting the chroma component)

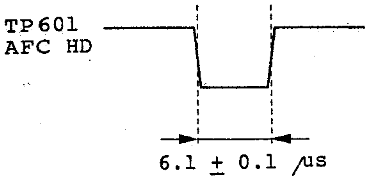
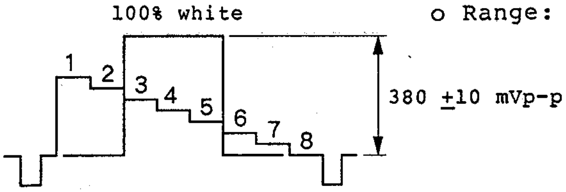
Connect the output of the colour bar generator to the vectorscope and set the phase and amplitude of the burst and chroma signals as specified.

(Initial setting of vectorscope)

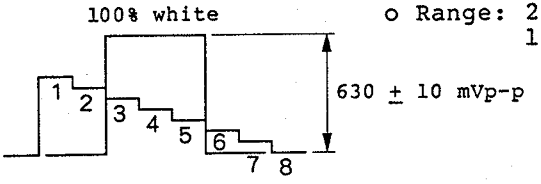
Set CAL to OFF for amplitude adjustment.
Set the burst phase to 180°.

Details of Adjustment (Perform adjustments following the details shown below)

No.	Item	State of Printer	Test Point	Adjustment Point	Adjustment Procedure
1	**Thermistor Adjustment**	o Power ON	o Print counter	o RT616 (S board)	1) Connect the resistors as shown on the left between TP631 and TP630 (D. GND). 2) Disconnect the connector from PG307 on the MS (Mecha. control) board. 3) Press the monitor select switch (SW609) and counter switch (S906) simultaneously and hold them depressed. 4) Adjust RT616 so the counter display changes 7. to 8. 5) After adjustment is completed, reconnect the connector to PG703 and disconnect the resistors.
	Resistors used  Print counter display  				
2	**AFC Free-running Frequency Adjustment**	o No input signal o D through mode	o TP601 (S board)	o RT618 (S board)	1) Connect a frequency counter to TP601. 2) Set the counter reading to 15,625 ± 16 Hz.
3	**AFC HD Phase Adjustment**	o Apply a B/W half colour bar signal. o D through mode	o CH-1: TP601 (S board) o CH-2: TP617 (S board)	o RT619 (S board)	1) Connect an oscilloscope to TP601 and TP617. 2) Set the phase from the fall of CH-1 AFC HD pulse to the fall of CH-2 SYNC pulse is 870 ± 20 ns.
	Waveforms  		(Settings of oscilloscope) o Trigger: CH-1 o CH-1: 2V/div. CH-2: 2V/div. 1 μs/div.		

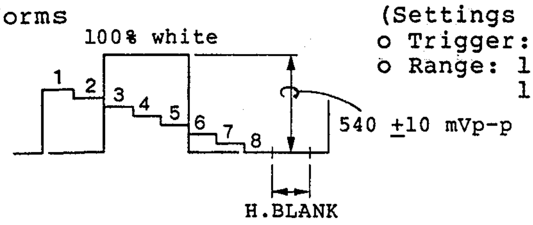
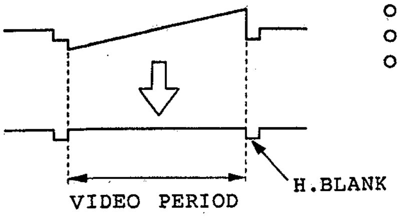
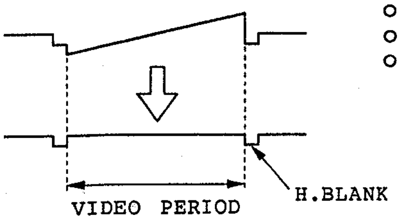
<table>
<tr><th>No.</th><th>Item</th><th>State of Printer</th><th>Test Point</th><th>Adjustment Point</th><th>Adjustment Procedure</th></tr>
<tr><td rowspan="2">4</td><td>HD Pulse Width Adjustment</td><td>o Apply a B/W half colour bar signal.
o D through mode</td><td>o TP601 (S board)</td><td>o RT620 (S board)</td><td rowspan="2">1) Connect an oscilloscope to TP601.
2) Adjust the HD pulse width to 6.1 ± 0.1 µs.</td></tr>
<tr><td colspan="2">Waveform
 </td><td colspan="2">(Settings of oscilloscope)
o Trigger: CH-1
o Range: 2V/div.
1 µs/div.</td></tr>
<tr><td>5</td><td>4fsc Oscillation Adjustment</td><td>o No input signal</td><td>o TP624 (S board)</td><td>o CT602 (S board)</td><td>1) Connect a frequency counter to TP624.
2) Set the counter reading to 17,734,472 ± 50 Hz.</td></tr>
<tr><td>6</td><td>SSG voltage Adjustment</td><td>o No signal input
o Still mode</td><td>o TP622 (S board)</td><td>o CT213 (RC board)</td><td>1) Connect a DC voltmeter to TP622.
2) Set the reading of the DC voltmeter to 4.0 ± 0.2 V.</td></tr>
<tr><td rowspan="2">7</td><td>Y Gain Adjustment (1)</td><td>o Apply a B/W half colour bar signal.
o D through mode</td><td>o TP616 (S board)</td><td>o RT624 (S board)</td><td rowspan="2">1) Connect an oscilloscope to TP616.
2) Adjust the amplitude from the pedestal level (8th step) to the 100% white peak to 380 ±10 mVp-p.</td></tr>
<tr><td colspan="2">Waveforms


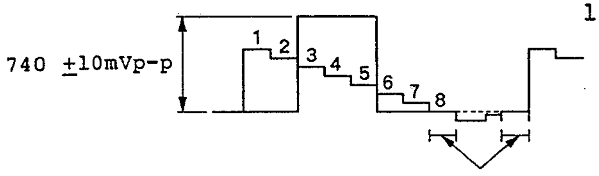
100% white
1
2
3
4
5
6
7
8
380 ±10 mVp-p

</td><td colspan="2">(Settings of Oscilloscope)
o Trigger: TP601 (S board)
o Range: 100mV/div.
10 µs/div.</td></tr>
<tr><td rowspan="2">8</td><td>Y Gain Adjustment (2)</td><td>o Apply a B/W half colour bar signal.
o D through mode</td><td>o TP602 (S board)</td><td>o RT621 (S board)</td><td rowspan="2">1) Connect an oscilloscope to TP602.
2) Adjust the amplitude from the pedestal level (8th step) to the 100% white peak to 630 ±10mVp-p.</td></tr>
<tr><td colspan="2">Waveforms


100% white
1
2
3
4
5
6
7
8
630 ± 10 mVp-p

</td><td colspan="2">(Settings of Oscilloscope)
o Trigger: TP601 (S board)
o Range: 200mV/div.
10 µs/div.</td></tr>
</table>

No.	Item	State of Printer	Test Point	Adjustment Point	Adjustment Procedure
9	**Brightness/ Contrast Coarse Adjustment**	o Apply a B/W half colour bar signal o D through mode	o TP604 (S board)	o RT452 (BRIGHT) (F board) o RT453,454 (CONTRAST) (F board)	1) Connect an oscilloscope to TP604. 2) RT452: Align the level in the H.BLNK period with the pedestal level. 3) RT453, RT454: Adjust to 540 ±10mVp-p from the pedestal level to the 100% white peak. 4) Repeat steps 2) and 3).
	Waveforms  100% white 1 2 3 4 5 6 7 8 540 ±10 mVp-p H.BLANK	(Settings of Oscilloscope) o Trigger: TP601 (S board) o Range: 100mV/div. 10 µs/div.			
10	**White Balance Adjustment**	o Apply a B/W full colour bar signal o D through mode	o CH-1: TP605 o CH-2: TP607 (S board)	o RT615 (S board)	1) Connect an oscilloscope to TP605 and TP607. 2) Invert CH-2 and set to the "ADD" mode. 3) Make the waveform flat.
	Waveforms 	(Setting of Oscilloscope) o Trigger: TP601 (S board) o CH-1: 500mV/div. o CH-2: 500mV/div. 10µs/div.			
11	**G Gain Adjustment**	o Apply a B/W half colour bar signal o D through mode	o CH-1: TP605 o CH-2: TP606 (S board)	o RT614 (S board)	1) Connect an oscilloscope to TP605 and TP606. 2) Invert CH-2 and set to the "ADD" mode. 3) Make the waveform flat.
	Waveforms 	(Settings of Oscilloscope) o Trigger: TP601 (S board) o CH-1: 500mV/div. o CH-2: 500mV/div. 10µs/div.			
11'	Caution: When the waveform has become flat, check the white balance adjustment in item 10). If it is not correct, readjust it. After checking that adjustments in items 10 and 11 are correct, proceed to the next adjustment.				

<table>
<tr><th>No.</th><th>Item</th><th>State of Printer</th><th>Test Point</th><th>Adjustment Point</th><th>Adjustment Procedure</th></tr>
<tr><td rowspan="2">12</td><td>**Brightness/ Contrast Adjustment (Not used in VY-150E)**</td><td>o Apply a B/W half colour bar signal.
o Still mode</td><td>o TP602 (S board)</td><td>o RT452 (BRIGHT) (F board)
o RT453 (CONTRAST) (S board)</td><td rowspan="2">1) Connect an oscilloscope to TP602.
2) Press the ENTER switch (SW606) and COLOUR switch (SW607) simultaneously in the still mode and hold them depressed.
3) RT452: Align the level in the H.BLNK period with the pedestal level.
4) RT453: Set the amplitude from the pedestal level (8th step) to the 100% white peak to 740 ±10mVp-p.</td></tr>
<tr><td colspan="4">Waveforms
(Settings of Oscilloscope)
o Trigger: TP615 (S board)
o Range: 200mV/div.
10 µs/div.


100% white
740 ±10mVp-p
1
2
3
4
5
6
7
8
Align the levels.

</td></tr>
<tr><td rowspan="2">12'</td><td>**Negative Mode Adjustment (VY-150E only)**</td><td>o Apply a B/W half colour bar signal.
o Still mode</td><td>o TP602 (S board)</td><td>o RT453
o RT452
o RT454 (F board)</td><td rowspan="2">1) Connect an oscilloscope to TP602.
2) Set S453 on the F board to "NEGA".
3) Press the ENTER switch (SW606) and COLOUR switch (SW607) simultaneously in the still mode and hold them depressed.
4) Adjust RT453 and RT452 alternately so the waveform as shown in Fig. A on the left can be obtained.
5) Adjust RT453 so the waveform as shown in Fig. B on the left can be obtained. (Press SW606 and SW607 simultaneously.)
6) Re-set S453 on the F board to "POSI".
7) RT454: Adjust the amplitude from the pedestal level to the 100% white peak to 740 ±10mVp-p. (see Fig. C). (Press SW606 and SW607 simultaneously.)

(Settings of Oscilloscope)
o Trigger: TP615 (S board)
o Range: 200mV/div.
10 µs/div.</td></tr>
<tr><td colspan="4">Waveforms

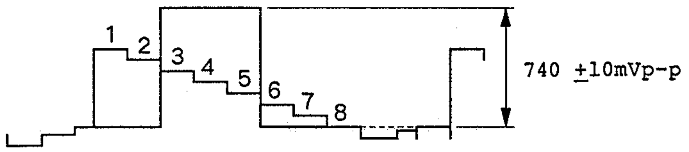
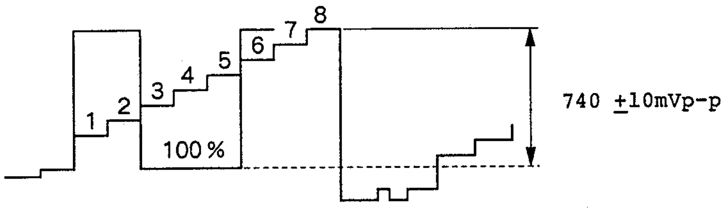



Fig. A


1
2
3
4
5
6
7
8
100%
740 ±10mVp-p

Fig. B

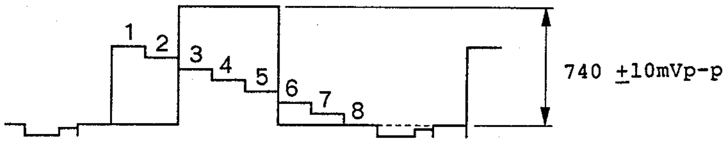
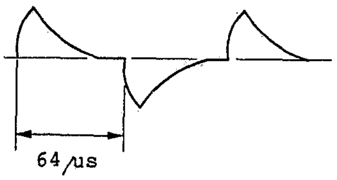
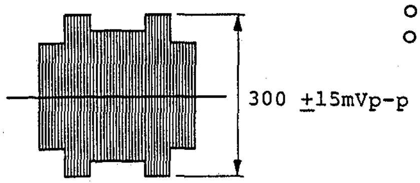
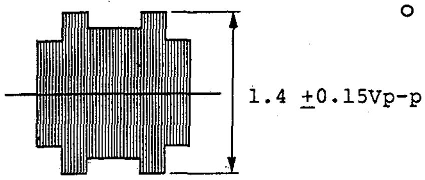
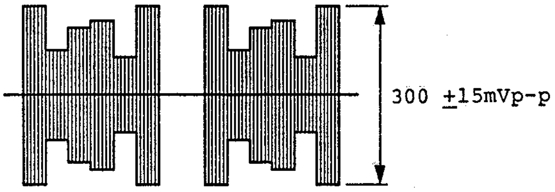
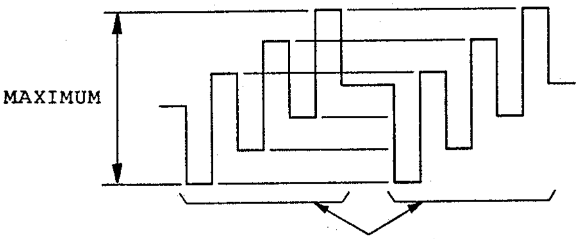
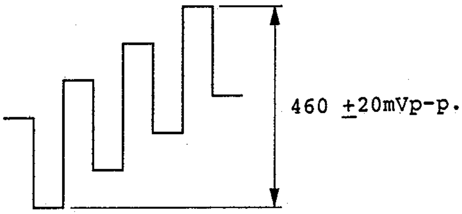
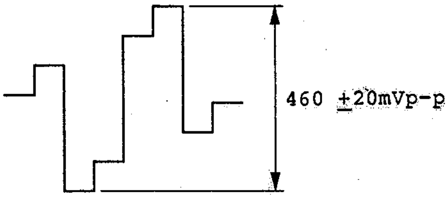
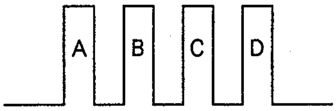
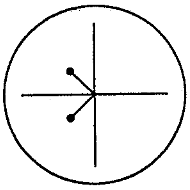
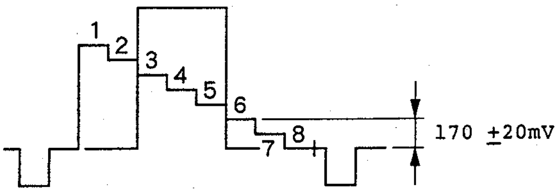
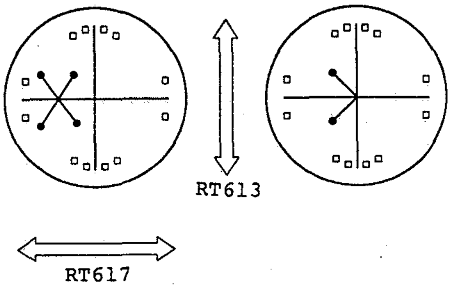
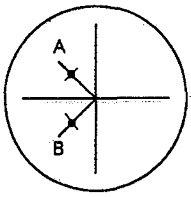
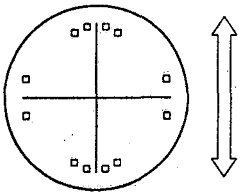



Fig. C</td></tr>
</table>

No.	Item	State of Printer	Test Point	Adjustment Point	Adjustment Procedure
13	**Decoder Free-running Oscillation Frequency Adjustment**	o Apply a B/W half colour bar signal. o D through mode	o TP608 (S board)	o CT601 (S board)	1) Connect a frequency counter to TP608. 2) Connect a 0.1µF ceramic capacitor between pins 5 and 14 of IC602 on the S board. 3) Set the counter reading to 4,433,300 ± 20 Hz. 4) Disconnect the capacitor connected in step 2). 5) Connect an oscilloscope to TP620. 6) Check that the waveform and amplitude are as shown on the left and also that the waveform is stationary. 7) If the above waveform is not obtained, readjust the oscillation frequency.
	Decoder Free-running Oscillation Frequency Check	o Apply a half colour bar signal. o D through mode.	o TP620 (S board)	-----	
	Waveform 				
14	**Decoder Colour Adjustment**	o Apply a colour bar signal. o D through mode.	o TP611 (S board)	o RT605 (S board)	1) Connect an oscilloscope to TP611. 2) Adjust the amplitude of the waveform to 300 ±15mVp-p.
	Waveform 		(Settings of Oscilloscope) o Trigger: TP601 o Range: 100mV/div. 20µs/div.		
15	**Chroma Amplifier Gain Adjustment**	o Apply a colour bar signal. o D through mode	o TP612 (S board)	o RT604 (S board)	1) Connect an oscilloscope to TP612. 2) Adjust the amplitude of the waveform to 1.4 ±0.15Vp-p.
	Waveform 		(Settings of Oscilloscope) o Trigger: TP601 o Range: 500mV/div. 20µs/div.		

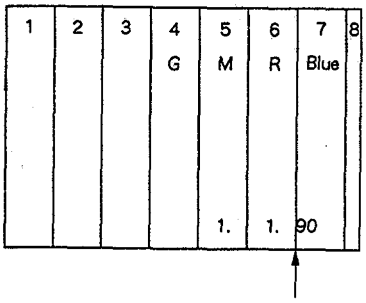
No.	Item	State of Printer	Test Point	Adjustment Point	Adjustment Procedure
16	**1H Delay Addition Adjustment**	o Apply a colour bar signal o D through mode	o TP613 (S board)	o RT601 (S board)	1) Connect an oscilloscope to TP613. 2) RT601: Adjust the amplitude of the waveform to 300 ±15mVp-p. (Settings of Oscilloscope) o Trigger TP601 o Range: 100mV/div. 20/us/div.
	Waveforms 				
17	**Decoder Tint Adjustment**	o Apply a colour bar signal. o D through mode	o TP614 (S board)	o RT602 o LT601 (S board)	1) Connect an oscilloscope to TP614. 2) Turn RT602 fully counterclockwise. Then turn RT602 clockwise and stop it where the amplitude of the waveform is maximum. 3) LT601: Make the shapes of waveforms on the left and right the same. (Settings of oscilloscope) o Trigger: TP601 o Range: 100mV/div. 20/us/div.
	Waveform Make the shapes the same.  Make the shapes the same.				
18	**B-Y Input Level Adjustment**	o Apply a colour bar signal o D through mode	o TP618 (S board)	o RT623 (S board)	1) Connect an oscilloscope to TP618. 2) Adjust the amplitude of the waveform to 460 ±20mVp-p. (Settings of Oscilloscope) o Trigger: TP601 o Range: 100mV/div. 20 /us/div.
	Waveforms 				

No.	Item	State of Printer	Test Point	Adjustment Point	Adjustment Procedure
19	**R-Y Input Level Adjustment**	o Apply a colour bar signal o D through mode	o TP619 (S board)	o RT622 (S board)	1) Connect an oscilloscope to TP619. 2) Adjust the amplitude of the waveform to 460 ±20mVp-p. (Settings of Oscilloscope) o Trigger: TP601 o Range: 100mV/div. 20μs/div.
	Waveforms 				
20	**B signal Adjustment**	o Apply a full colour bar signal. o D through mode	o TP607 (S board)	o RT451 (F board)	1) Connect an oscilloscope to TP607. 2) RT451: Align the heights of peaks A and D of the waveform. (Fig. 1) (Settings of Oscilloscope) o Trigger: TP601 o Range: 200mV/div. 10μs/div.
	Waveforms  Fig. 1				
21	**Initial Setting of Vectorscope**	o Apply a half colour bar signal. o Through mode	o VIDEO OUT jack	-----	1) Connect a vectorscope to the VIDEO OUT jack. 2) Vary the PHASE and GAIN of the vectorscope, set the two subcarrier points to the 75% positions and adjust so the vectors of each colour are within the corresponding frames.
	 - Vectorscope -				
22	**Setup Adjustment**	o Apply a B/W half colour bar signal. o D through mode.	o TP621 (S board)	o RT606 (S board)	1) Connect an oscilloscope to TP621. 2) Adjust the amplitude from the 6th step of the waveform to the pedestal level to 170 ±20mV. (Settings of Oscilloscope) o Trigger: TP601 o Range: 200mV/div. 5 μs/div.
	Waveforms 				

No.	Item	State of Printer	Test Point	Adjustment Point	Adjustment Procedure
23	**Burst Coarse Adjustment**	-----	-----	o RT611 o RT612 (S board)	1) Turn RT611 and RT612 fully counterclockwise (when viewed from the pattern side.)
24	**Encoder Tint Adjustment**	o Apply a full colour bar signal. o Still mode	o VIDEO OUT jack	o RT613 o RT617 (S board)	1) Connect a vectorscope to the VIDEO OUT jack. 2) Adjust RT613 and RT617 so that the vectors converge at the centre of the vectorscope.
	Before Adjustment After Adjustment  				
25	**Encoder Burst Level Adjustment**	o Apply a full colour bar signal. o Still mode	o VIDEO OUT jack	o RT611 o RT612 (S board)	1) Connect a vectorscope to the VIDEO OUT jack. 2) Fine adjust RT611 and RT612 so that points A and B are set to 75%. 3) Perform adjustment item 24 again.
	 - Vectorscope -				
26	**Encoder R-Y Level Adjustment**	o Apply a full colour bar signal. o Still mode	o VIDEO OUT jack	o RT610 (S board)	1) Connect a vectorscope to the VIDEO OUT jack. 2) RT610: Vary the level in the directions of the arrows so that the signals are inside the "R", "Mg", "Cy" and "G" frames.
	 - Vectorscope -				

No.	Item	State of Printer	Test Point	Adjustment Point	Adjustment Procedure
27	**OSD Character Position Adjustment**	o Apply a full colour bar signal. o D through mode	o VIDEO OUT jack	o RT201 (RC board)	1) Connect a monitor TV to the VIDEO OUT jack. 2) Align the left end of numeral "9" of the year indication "90" with the border between the red and blue bars as shown in the figure on the left.
28	**Thermal Head Voltage Adjustment**	o No input signal	o CP51-1 o CP51-6 (SWR board)	o R55 (SWR board)	1) Connect a DC voltmeter between pins 1 and 6 of CP51 on the SWR (Switching Regulator) board. 2) Read the resistance indicated on the thermal head and calculate the appropriate voltage according to the table on the left. 3) Match the reading of the DC voltmeter to the calculated value. Notes: 1. After the above adjustment is completed, store the black-and-white (chroma off) signal of the TG-5 half color bars in memory, print it and compare the print with the density sample specified separately. If the print is denser than the limit sample or comet tails occur in the print, set the voltage approx. 0.4V lower than the above value. If the print is lighter than the lighter limit sample, set the voltage approx. 0.4V higher than the above value. 2. Press the ink cartridge door switch and hold the ink cartridge firmly when printing without the front panel installed.

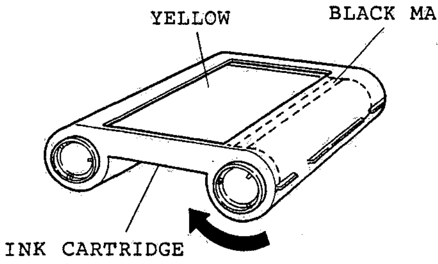
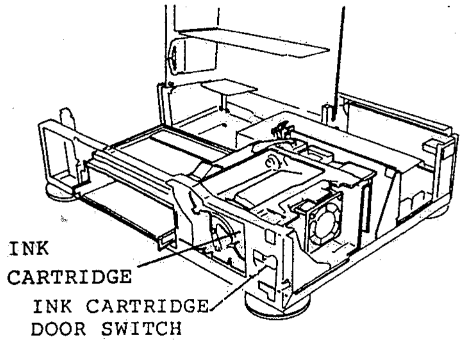
Monitor TV



Resistance indicated on head (ohm)	Specified voltage (V)
2095 - 2115	20.0
2074 - 2094	19.9
2053 - 2073	19.8
2033 - 2052	19.7
2012 - 2032	19.6
1992 - 2011	19.5
1971 - 1991	19.4
1951 - 1970	19.3
1931 - 1950	19.2
1911 - 1930	19.1
1891 - 1910	19.0
1871 - 1890	18.9
1851 - 1870	18.8
1831 - 1850	18.7
1812 - 1830	18.6
1792 - 1811	18.5
1773 - 1791	18.4
1753 - 1772	18.3
1734 - 1752	18.2
1715 - 1733	18.1
1696 - 1714	18.0
1677 - 1695	17.9
1659 - 1676	17.8

KH Circuit Board Adjustment

- Fault due to incomplete adjustment
  The paper is discharged without being printed, the ink is normal while the INK LED is flashing, but the roll of ink paper is fed without printing.

No.	Item	State of Printer	Test Point	Adjustment Point	Adjustment Procedure
29.	**Ink Sensor Level Adjustment**  Fig. 1 - INK initializing state - The state in which only the roll of ink paper is fed while the head is lowered slightly to locate the start of the ink paper.  Fig. 2	o No input signal	o CN009-7 (Mecha. Sensor Board)	o RT2001 (KH board)	1) Take up the roll of ink paper in the cartridge until the black marker can not be seen. (Fig. 1) 2) Set the printer to the servicing position. (See page 4-1) 3) Place a sheet of paper, etc. on the thermal head to shut off the light. 4) Insert the ink cartridge into the printer, and while holding the cartridge and ink cartridge door switch, turn the power on. (Fig. 2) 5) Press the PRINT switch after the READY indicator lights to initialize the ink paper. (Perform adjustment while the ink paper is initialized.) 6) Connect a DC voltmeter to CN009 pin 7 and adjust it so the voltage is 3.8-3.9V when the yellow and magenta ink sections are being fed. Then check that the voltage is 1.5V or less when the cyan ink section is being fed (when this can be confirmed, adjustment is completed). If the above cannot be confirmed, adjust the voltage when the cyan section is being fed is 1.4-1.5V. (RT2001) 7) After the voltage has been adjusted at the cyan ink section, perform the check in step 6) again.

MECHANICAL COMPONENT ADJUSTMENT

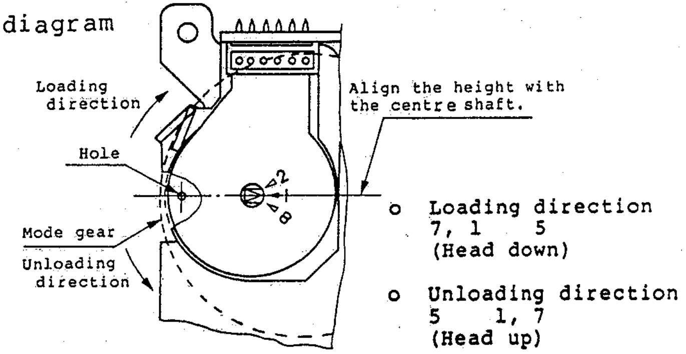
1. Mechanism Mode Switch

Purpose: To detect the mechanism state correctly and prevent malfunctions.

Adjustment Procedure

1) Check that the arrow on the centre axis of the switch points in the direction of mechanism mode arrow 1. Also check that the heights of the centre axis of the switch and the hole in the mode gear are aligned.
2) If the above alignments cannot be confirmed, perform adjustment by the following procedure.
   1. Remove the mechanism mode switch/mode motor assembly. (See item 6 of Main Mechanical Components Removal in CHAPTER 2.)
   2. Move the mode gear to align the position of the hole.
   3. Turn the gear at the back of the switch so the arrow on the centre shaft points in the direction of mechanism mode arrow 1.
   4. Reinstall the mechanism mode switch/mode motor assembly in this state.
3) Load the ink paper and perform each operation. Check that loading and unloading are performed correctly.

Adjustment diagram



Mechanism Mode	SW No.
Paper supply	Between 8 and 7
STOP	1
Ink paper transport	2
High-speed paper transport	3
Low-speed paper transport	4
Printing	6
Paper discharge	7

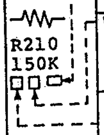
CHAPTER 5

SCHEMATIC/CIRCUIT BOARD DIAGRAMS

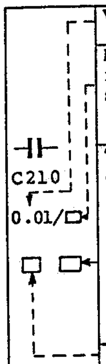
BEFORE USING THIS SERVICE REFERENCE MATERIAL

How to read abbreviations

(Resistors)

	Value	Not indicated .. Ω(ohm) K .... kΩ
	Toler-ance	Not indicated .. ±5% K .... ±10% M .... ±20%
	Wattage	Not indicated .. 1/8W (All values other than 1/8W are indicated in the schematic diagrams with W omitted)
	Sort	Not indicated .. Carbon film RC .... Carbon solid RW .... Wire wound RS .... Metal oxide film RN .... Metal film
Example:	R120 ..... 150kohm, carbon solid RC1/2K 1/2W, +10%	

(Capacitors)

	Value	Not indicated .. μF P .... PF
	Dielect-ric strength	Not indicated .. 50WV (All values other than 50WV and electrolytic capacitors are indicated in the schematic diagrams with WV omitted)
	Toler-ance	Not indicated .. ±10% J .... ±5% M .... ±20% C .... ±0.25PF Z .... +80% -20% (No tolerance is indicated for electrolytic capacitors (excluding tantalum and high stability electrolytic capacitors))
	Sort	Not indicated .. Ceramic General electrolytic (distinguished from ceramic with circuit symbol) MYL .... Mylar (polyester film) STY .... Styrol TA .... Tantalum KU .... High stability electrolytic MP .... Metalized paper
Example:	—||— C210 0.01/25 ... Mylar, 0.01μF, 25WV, ±5% MYL J	

Notes:

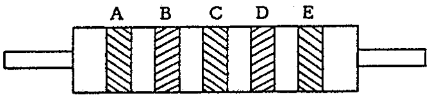
1. Voltages are measured with the negative ⊖ terminal of the power supply as reference in the normal operating mode. The voltages in different modes are indicated in the schematic diagrams; those in parentheses ( ) are in the record mode and those without parentheses are in the play mode.
2. The value, dielectric strength (wattage), tolerance and sort of resistors (excluding variable resistors, etc.) and capacitors are indicated in the schematic diagrams by abbreviations. Replace them correctly, comparing the abbreviations in the schematic diagrams and the table "how to read abbreviations".

Cautions on use of MOS IC

1. The MOS IC is inserted in black foam for shipment. This foam is a conductor which short-circuits between the leads to prevent damage. Do not remove ICs from this foam during their storage. Avoid removing ICs from this foam, placing them on plastic which is likely to be charged with static electricity or inserting them into styrol foam.
2. High voltages may be applied during soldering caused by leakages from the soldering iron, so be sure to ground the tip of the soldering iron or use a low voltage soldering iron.
3. The human body, clothes made of synthetic fibres or nylon gloves may be charged with several thousands volts of static electricity because of friction, so a worker should be earthed.
4. Be sure to earth measuring instruments such as oscilloscopes, VTVMs, etc. used for repairs.

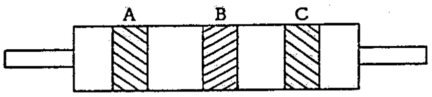
How to read capacity and inductance of resistor shape capacitors and coils

CAPACITOR



CAPACITY: (10A+B) x C (PF)
TOLERANCE: D
RATED VOLTAGE: BODY COLOUR
PINK: 25V
GREEN: 50V
CHARACTERISTICS: E

COIL



INDUCTANCE: (10A+B) x C (μH)

COLOUR	A,B	C	D	E
Black	0	10^0	±20%	For temperature compensation
Brown	1	10^1		
Red	2	10^2		
Orange	3	10^3		
Yellow	4	10^4		
Green	5	10^5		
Blue	6			
Violet	7			
Gray	8		±30%	High dielectric constant type
White	9			For temperature compensation
Gold		10^{-1}	±5%	
Silver		10^{-2}	±10%	High dielectric constant type

LEADLESS COMPONENT IDENTIFICATION

1. Leadless Transistor

The leadless transistor number is indicated by a code on the surface, using two alphabet letters, one numeral and two alphabet letters or one alphabet letter and one numeral.

(1) Identification for one alphabet letter and one numeral, two alphabet letters or one numeral and two alphabet letters.
Use this code and the following chart for component identification.

Letter	Transistor Number	Letter	Transistor Number
A	2SB709	S	2SA1121
B	2SC1621	S1	FMS1
BR	2SC2412KR(BR)	U	2SC2404
BS	2SC2412KS(BS)	W	2SD602
C	2SA1122	W1	FMW1
CR	2SB710R(CR)	W2	FMW2
CQ	2SC2412KQ(CQ)	WQ	2SK322Q(WQ)
D	2SC2463	X	2SK157
E	2SA1022	Y	2SD601
F	2SC2619	Z	2SD874
FR	2SA1037KR(FR)	1F	2SK321
H	2SC1036K	1M	2SA1052
I	2SB792	1K	2SK316
K	2SK160	2B	2SK374
L	2SC2462	13	DTA143K
L(6)	2SC1623(6)(L6)	15	DTA124K
MC	2SA1052	16	DTA144EK
N	2SC1653	25	DTC124K
P	2SD814	26	DTC144K
Q	2SC2620	A2	FMA2
R	2SC2618	G2	FMG2

Example:

Code	Number
CD	2SA1122D
LD	2SC2462D

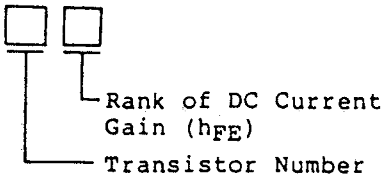


Fig.5-1 Leadless Transistor Code

(2) Identification for one alphabet letter and one numeral.
Use this code and the following chart for component identification.

Letter	Transistor Number
L	2SC1623

Example:

Code	Number
L5	2SC1623(5)
L6	2SC1623(6)

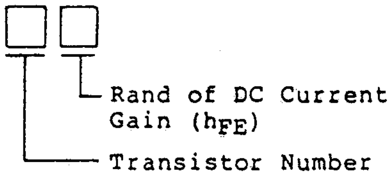


Fig.5-2 Leadless Transistor Code

2. Leadless Diode

The leadless diode number is indicated by a code on the surface, using one alphabet letter and one numeral, two alphabet letters, two alphabet letters and one numeral, two numerals, two numerals and one alphabet letter or three numerals.
Use this code and the following chart for component identification.

Code	Diode Number	Code	Diode Number
C1	HSM88S		
MC	MA153	MH	MA151K
MN	MA151WA	MO	MA152WA
MT	MA151WK	MU	MA152WK
M1D	MA160		
NT	DAN202K		
S1A	1SR143		
3.0L	MA3030L	56M	MA3056M
4.3L	MA3043L	75L	MA3075L
5.1M	MA3051M	82M	MA3082M
6.2L	MA3062L	91M	MA3091M
6.8	MA3068		
6.8M	MA3068M		
7.5H	MA3075H		
8.2M	MA3082M		
9.1	MA3091		
272	D2.7M-B2	362	D3.6M-B2
27	RD2.7M-B	512	RD5.1M-B2
30	RD3.0M-B	621	RD6.2M-B1
56	RD5.6M-B	683	RD6.8M-B3
91	RD9.1M-B	102	RD10M-B2
		163	RD16M-B3
		182	RD18M-B2

3. Leadless Resistors

The resistor value is indicated on the surfce of the component, using a three digit number or one alphabet letter and one numeral.

(1) Identification for three digit numbers.
Read this code following the same procedure as when reading the color code on discrete resistors.

Example:

Code	Value
330	33 x 10^0 = 33 ohms
561	56 x 10^1 = 560 ohms
123	12 x 10^3 = 12K ohms
1R2	1 + 0.2 = 1.2 ohms (R: Decimal point)

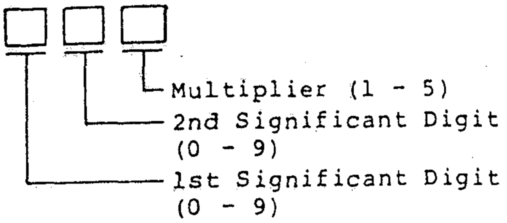

Multiplier (1 - 5)
2nd Significant Digit (0 - 9)
1st Significant Digit (0 - 9)

Fig.5-3 Leadless Resistor Code

(2) Identification for one alphabet letter and one numeral.
Use this code and the following chart for component identification.

Letter	Value	Letter	Value
A	1	N	3.3
C	1.2	Q	3.9
E	1.5	S	4.7
G	1.8	U	5.6
J	2.2	W	6.8
L	2.7	Y	8.2

Example:

Code	Value
A1	1 x 10^1 = 10 ohms
G2	1.8 x 10^2 = 180 ohms
L3	2.7 x 10^3 = 2700 ohms
S4	4.7 x 10^4 = 47K ohms
W5	6.8 x 10^5 = 680K ohms

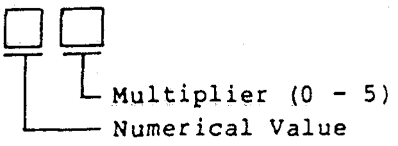
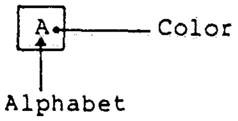

Multiplier (0 - 5)
Numerical Value

Fig.5-4 Leadless Resistor Code

4. Leadless Capacitors

The capacitive value is indicated on the surface of the component, using body color and one alphabet, or one alphabet and one numeral.

(1) Identification for body color and one alphabet.

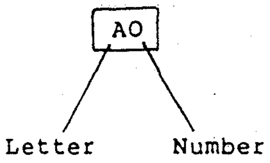

A
Color
Alphabet

Body Color	Alphabet	Value
Red	A	1(PF)
	C	2
	E	3
	G	4
	J	5
	L	6
	N	7
	Q	8
	S	9
Black	A	10(PF)
	C	12
	Y	82
	E	15
	G	18
	J	22
	L	27
	N	33
	Q	39
	S	47
	U	56
	W	68
	Y	82
Blue	A	100(PF)
	C	120
	E	150
	G	180
	J	220
	L	270
	N	330
	Q	390
	S	470
	U	560
	W	680
	Y	820
White	A	0.001(μF)
	E	0.0015
	J	0.0022
	L	0.0027
	N	0.0033
	S	0.0047
	W	0.0068
Green	A	0.01(μF)
	E	0.015
	J	0.022
	N	0.033
	S	0.047
	U	0.056
	W	0.068
	Y	0.082
Yellow	A	0.1(μF)

Example:

Color	Code	Value
Red	A	1PF
Black	A	10PF

(2) Identification for one alphabet and one numeral.


AO
Letter
Number

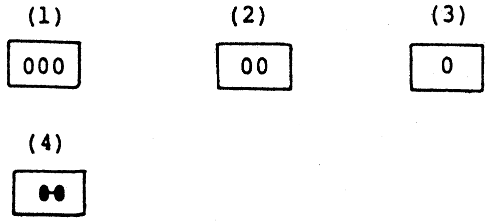
Letter /Number	Value	Letter /Number	Value
A0	1(PF)	A2	100(PF)
H0	2	C2	120
M0	3	E2	150
d0	4	G2	180
f0	5	J2	220
m0	6	L2	270
n0	7	N2	330
t0	8	Q2	390
y0	9	S2	470
A1	10(PF)	U2	560
C1	12	W2	680
E1	15	Y2	820
G1	18	A3	0.001(μF)
J1	22	E3	0.0015
L1	27	J3	0.0022
N1	33	N3	0.0033
Q1	39	S3	0.0047
S1	47	W3	0.0068
U1	56	A4	0.01(μF)
W1	68	E4	0.015
Y1	82	J4	0.022
		N4	0.033
		S4	0.047
		U4	0.056
		W4	0.068
		A5	0.1(μF)

Example:

Letter /Number	Value
A0	1PF
A1	10PF

5. Leadless Jumper

The leadless jumper is indicated as shown below.



CHIP COMPONENT REMOVAL/REPLACEMENT

NOTE: Temperature of soldering iron must be kept at 600 - 700°F.

1. Component Removal

(1) Place the sordering iron tip directly on a component in order to melt solder and glue as shown in Figs. 1 and 2. Remove components with tweezers or long nose pliers.

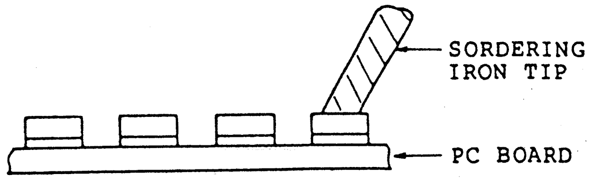


Fig. 1

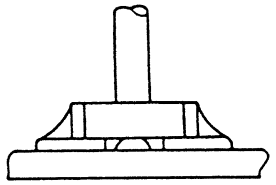


Fig. 2

(2) Completely remove old solder from the PC board, using an unsoldering tool. Application of a small amount of flux will greatly aid to remove old solder.

2. Chip Component Replacement

(1) After the components have been removed and the PC pattern cleaned, apply a small amount of solder on the PC pattern and let it cool, as shown in Fig. 3.

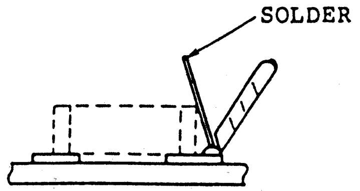


Fig. 3

(2) Insert a new component and apply the soldering iron tip to the PC pattern as shown in Fig. 4 (a) through (d).

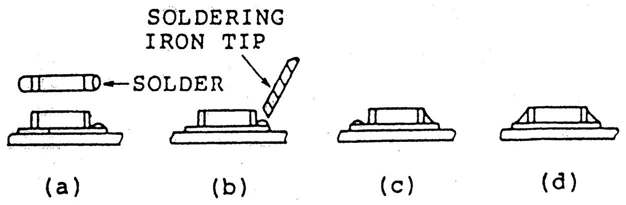


Fig. 4

CAUTION: As the pattern and components are close to each otehr, extreme care must be exercised when soldering not to damage components or bridge PC pattern path. High soldering iron temperature may damage the components. Do not apply the soldering iron tip to a new component during installation.

IC COMPONENT REMOVAL/REPLACEMENT

1. Component Removal

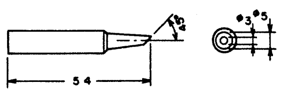
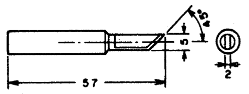
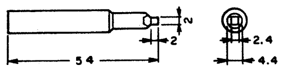
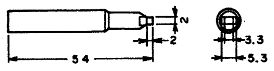
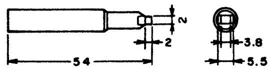
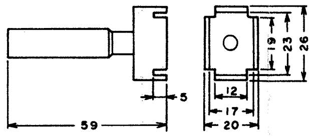
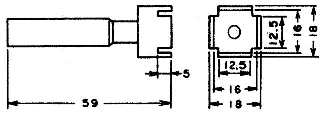
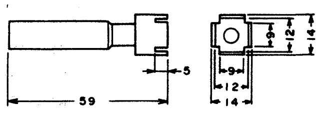
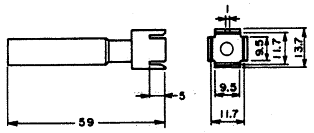
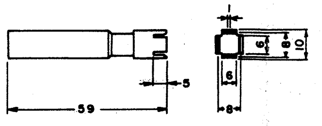
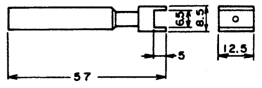
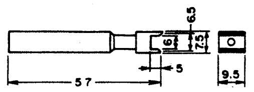
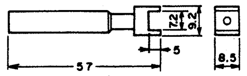
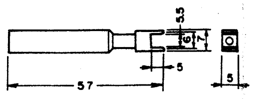
Extreme care must be exercised when removing and replacing defective transistors and ICs. Keep in mind that copper foil is employed on both sides of the printed circuit board. ICs and transistors may be removed from the circuit for testing. If ICs are to be removed from the circuit intact and unharmed, an IC unsoldering tip attached to a soldering iron should be used. This tip will melt solder on all pin connections simultaneously and the IC may be pulled from the PC board.

A solder suction tool or braided unsoldering wick may be used to remove the solder, freeing one pin at a time. Carefully and thoroughly remove solder from all IC pins until the IC can be removed without resistance. When removing transistors for testing, use needle nose or clamping type seizing pliers that will act as a headsink on the transistor leads. If a transistor or IC is defective, it may be cut from the leads and removed. The leads may be unsoldered and removed one at a time.

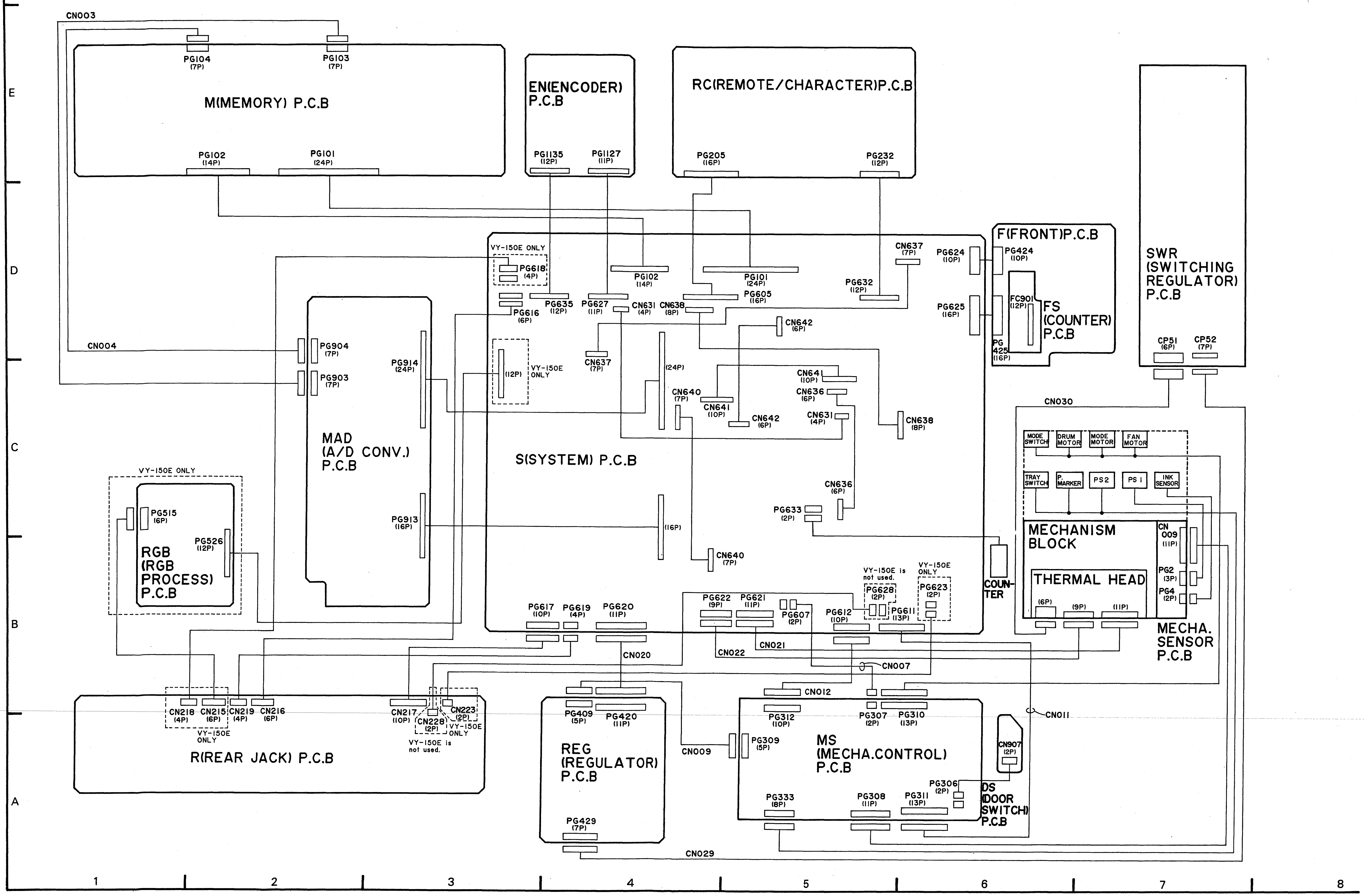
2. Replacement

If it is necessary to bend IC leads, firmly hold and bend the lead with needle nose pliers. Make sure the leads are free from solder and are parallel to the IC body. Remove all solder from the holes in the PC board before attempting replacement. When replacing an IC or transistor on the PC board, make sure the component is properly orientated. Before soldering an IC, verify there is no AC voltage between the solder iron tip and common ground.

SOLDERING IRON TIPS FOR REPAIRING

1. Round Tip 7099122 (for Soldering) 	2. Flat Tip 7099123 (for Soldering) 	3. 2×2 CR Tip 7099124 (for Unsoldering) 	4. 3×2 CR Tip 7099125 (for Unsoldering) 
5. 4×2 CR Tip 7099126 (for Unsoldering) 	6. 23×17 Box Tip 7099127 (for Unsoldering) 	7. 16×16 Box Tip 7099128 (for Unsoldering) 	8. 12×12 Box Tip 7099129 (for Unsoldering) 
9. 12×11 Box Tip 7099130 (for Unsoldering) 	10. 8×8 Box Tip 7099131 (for Unsoldering) 	11. 7×13 Channel Tip 7099132 (for Unsoldering) 	12. 6×10 Channel Tip 7099133 (for Unsoldering) 
13. 7×9 Channel Tip 7099134 (for Unsoldering) 	14. 5×5 Channel Tip 7099135 (for Unsoldering) 		

INTERNAL WIRING DIAGRAM



E
D
C
B
A
1
2
3
4
5
6
7
8
CN003
PG104 (7P)
PG103 (7P)
M(MEMORY) P.C.B
PG102 (14P)
PG101 (24P)
EN(ENCODER) P.C.B
PG1135 (12P)
PG1127 (11P)
RC(REMOTE/CHARACTER)P.C.B
PG205 (16P)
PG232 (12P)
SWR (SWITCHING REGULATOR) P.C.B
CP51 (6P)
CP52 (7P)
F(FRONT)P.C.B
PG424 (10P)
FC901 (12P)
FS (COUNTER) P.C.B
PG 425 (16P)
PG624 (10P)
PG625 (16P)
CN637 (7P)
PG632 (12P)
VY-150E ONLY
PG618 (4P)
PG616 (6P)
PG635 (12P)
PG627 (11P)
CN631 (4P)
CN638 (8P)
PG102 (14P)
PG101 (24P)
PG605 (16P)
CN642 (6P)
CN004
PG904 (7P)
PG903 (7P)
PG914 (24P)
(12P)
VY-150E ONLY
CN637 (7P)
(24P)
CN640 (7P)
CN641 (10P)
CN642 (6P)
CN641 (10P)
CN636 (6P)
CN631 (4P)
CN638 (8P)
CN030
MODE SWITCH
DRUM MOTOR
MODE MOTOR
FAN MOTOR
TRAY SWITCH
P. MARKER
PS2
PS1
INK SENSOR
MECHANISM BLOCK
THERMAL HEAD
CN 009 (11P)
PG2 (3P)
PG4 (2P)
(6P)
(9P)
(11P)
MECHA. SENSOR P.C.B
MAD (A/D CONV.) P.C.B
S(SYSTEM) P.C.B
CN636 (6P)
PG633 (2P)
PG913 (16P)
(16P)
CN640 (7P)
COUNTER
VY-150E ONLY
PG515 (6P)
PG526 (12P)
RGB (RGB PROCESS) P.C.B
VY-150E is not used.
PG628 (2P)
VY-150E ONLY
PG623 (2P)
PG617 (10P)
PG619 (4P)
PG620 (11P)
PG622 (9P)
PG621 (11P)
PG607 (2P)
PG612 (10P)
PG611 (13P)
CN020
CN022
CN021
CN007
CN012
CN011
CN218 (4P)
CN215 (6P)
CN219 (4P)
CN216 (6P)
VY-150E ONLY
CN217 (10P)
CN228 (2P)
CN223 (2P)
VY-150E ONLY
VY-150E is not used.
R(REAR JACK) P.C.B
PG409 (5P)
PG420 (11P)
REG (REGULATOR) P.C.B
PG429 (7P)
CN009
PG309 (5P)
PG312 (10P)
PG307 (2P)
PG310 (13P)
MS (MECHA.CONTROL) P.C.B
PG306 (2P)
PG333 (8P)
PG308 (11P)
PG311 (13P)
CN907 (2P)
DS (DOOR SWITCH) P.C.B
CN029

LIST OF CONNECTORS

PG635 ←→ PG1135
(S P.C.B) (EN P.C.B)

1	RBF
2	BBF
3	9V
4	C.SYNC
5	BWB
6	BLK (E)
7	CURT
8	5V
9	CHROMA
10	Y
11	VIDEO
12	TRAP

PG627 ←→ PG1127
(S P.C.B) (EN P.C.B)

1	GND
2	FSCS
3	GND
4	FSC
5	GND
6	Y
7	RWB
8	R－Y
9	GND
10	B－Y
11	SET UP

VY－150E ONLY

PG618 ←→ CN218
(S P.C.B) (R P.C.B)

1	A5V
2	BNC SYNC
3	GND
4	$\overline{\text{RGB}}$

PG616 ←→ CN216
(S P.C.B) (R P.C.B)

1	Y
2	GND
3	CHROMA
4	GND
5	VIDEO
6	GND

PG617 ←→ CN217
(S P.C.B) (R P.C.B)

1	MEMO／$\overline{\text{SOUR}}$
2	S／$\overline{\text{VIDEO}}$
3	EXT／$\overline{\text{TV}}$
4	A12V
5	A9V
6	GND
7	CONTROL
8	CONTROL
9	VIDEO
10	GND

VY－150E is not Used.

PG628 ←→ CN228
(S P.C.B) (R P.C.B)

1	P.TRIGGER
2	GND

PG605 ←→ PG205
(S P.C.B) (RC P.C.B)

1	OL SIGNAL
2	CG／OL
3	CG.DATA
4	CG.CLOCK
5	OL ON／OFF
6	SW5V (D)
7	CG.ADM
8	IR PULSE
9	GND
10	A5V (D)
11	KEY 5
12	KEY 4
13	KEY 3
14	DIG 3
15	DIG 2
16	DIG 1

PG632 ←→ PG232
(S P.C.B) (RC P.C.B)

1	TEST POINT
2	SELECT
3	$\overline{\text{HD}}$
4	$\overline{\text{VD}}$
5	C.SYNC
6	SE. VD
7	SE. HD
8	VDB
9	4 fsc
10	GND
11	7V
12	EN. CSYNC

PG913 ←→ CN913
(MAD P.C.B) (S P.C.B)

1	GND
2	R－Y
3	B－Y
4	GND Y
5	Y
6	GND
7	AD 1 (B－Y)
8	AD 2 (R－Y)
9	AD 3 (Y)
10	GND
11	V_{RT} (TP)
12	V_{RB} (TP)
13	CP 2
14	GND
15	AD.CLOCK
16	RB／IN

VY－150E ONLY

PG623 ←→ CN223
(S P.C.B) (R P.C.B)

1	PRINT
2	MEMORY

PG515 ←→ CN215
(RGB P.C.B) (R P.C.B)

1	R
2	GND
3	G
4	GND
5	B
6	GND

PG526 ←→ PG526
(RGB P.C.B) (S P.C.B)

1	CP
2	———
3	———
4	———
5	12V
6	GND
7	B－Y
8	GND
9	R－Y
10	GND
11	Y
12	9V (A)

PG914 ←→ CN914
(MAD P.C.B) (S P.C.B)

1	YD 0
2	YD 1
3	YD 2
4	YD 3
5	YD 4
6	YD 5
7	OBL DATA
8	GND
9	3fsc
10	GND
11	YD. CLOCK
12	GND
13	DA. CLOCK
14	GND
15	DACN
16	GND
17	BABN
18	5V (D)
19	B－Y
20	R－Y
21	GND
22	Y
23	9V (A)
24	5V (A)

PG904 ←→ PG104
(MAD P.C.B) (M P.C.B)

1	GND
2	Y0
3	Y1
4	Y2
5	Y3
6	Y4
7	Y5

PG619 ←→ CN219
(S P.C.B) (R P.C.B)

1	Y.SEPA
2	GND
3	C.SEPA
4	GND

PG102 ←→ PG102
(S P.C.B) (M P.C.B)

1	ADR 5
2	GND
3	SE3B
4	SE2B
5	SE1B
6	SE3A
7	SE2A
8	SE1A
9	CASB
10	CASA
11	RASB
12	RASA
13	CASC
14	CASRE

PG101 ←→ PG101
(S P.C.B) (M P.C.B)

1	GND
2	5V
3	5V
4	SVDN
5	OL
6	SEAB
7	FREE
8	FIED
9	FAFB
10	GND
11	SC 1
12	SC 2
13	SC 3
14	WEB
15	WEA
16	DTOE
17	GND
18	ADR 6
19	ADR 4
20	ADR 7
21	ADR 2
22	ADR 0
23	ADR 1
24	ADR 3

PG903 ←→ PG103
(MAD P.C.B) (M P.C.B)

1	GND
2	RB 0
3	RB 1
4	RB 2
5	RB 3
6	RB 4
7	RB 5

PG633 ←→ COUNTER
(S P.C.B)

1	A12V
2	COUNT

PG624 ←→ PG424
(S P.C.B) (F P.C.B)

1	GND
2	A12V
3	9V (A)
4	BRIGHT
5	CONTRAST
6	COLOUR
7	$\overline{\text{TVSW}}$
8	VIDEO／$\overline{\text{SEPA}}$
9	IR PULSE
10	KEY 2

PG625 ←→ PG425
(S P.C.B) (F P.C.B)

1	GND
2	A5V (D)
3	SEG a
4	SEG f
5	SEG g
6	SEG e
7	SEG d
8	———
9	SEG c
10	SEG b
11	KEY 7
12	KEY 6
13	KEY 5
14	DIG 3
15	DIG 1
16	DIG 3 (DRIVE)

FC901 ←→ FC901
(F P.C.B) (FS P.C.B)

1	SEG. a
2	SEG. f
3	SEG. g
4	SEG. e
5	SEG. d
6	DP
7	5V
8	SEG. c
9	ANOD
10	SEG. b
11	DIG 1
12	KEY 6

PG306 ←→ CN907
(MS P.C.B) (DS P.C.B)

1	DIG 2
2	KEY 2

PG308 ←→ CN009
(MS P.C.B) (MECHA
SENSOR P.C.B)

1	CST.SENSOR 3
2	CST.SENSOR 2
3	INK.CST.1
4	P.SENSOR 3
5	T.REEL SENSOR
6	P.SENSOR 2
7	INK.SENSOR
8	5V
9	P.SENSOR 1
10	GND
11	S.REEL SENSOR

PG620 ←→ PG420
(S P.C.B) (REG P.C.B)

1	9V (A)
2	5V (A)
3	A GND
4	5V
5	POWER CONT.
6	7V
7	GND
8	A12V
9	5V (D)
10	S.W.R.P
11	12V

PG409 ←→ PG309
(REG P.C.B) (MS P.C.B)

1	A15V
2	A12V
3	5V
4	7V
5	GND

PG429 ←→ CP52
(REG P.C.B) (SWR P.C.B)

1	S.W.R.P
2	GND
3	GND
4	POWER CONT.
5	5V
6	A12V
7	A15V

CP51 ←→ THERMAL HEAD
(SWR P.C.B)

1	19V
2	19V
3	19V
4	GND
5	GND
6	GND

PG612 ←→ PG312
(S P.C.B) (MS P.C.B)

1	LINE
2	DM REF
3	D.MOTOR 0
4	D.MOTOR 1
5	D.MOTOR 2
6	FAN
7	D.MOTOR－FG
8	M.MOTOR 1
9	M.MOTOR 2
10	GND

PG607 ←→ PG307
(S P.C.B) (MS P.C.B)

1	THERMAL 1
2	THERMAL 2

PG611 ←→ PG311
(S P.C.B) (MS P.C.B)

1	DIG 0
2	DIG 1
3	DIG 2
4	DIG 3
5	KEY 0
6	KEY 1
7	KEY 2
8	KEY 3
9	KEY 4
10	P.SENSOR 1
11	P.SENSOR 2
12	GND
13	P.SENSOR 3

PG333 ←→ PS2,P.M, SWITCH
(MS P.C.B)

1	5V
2	M.SENSOR
3	M.SENSOR (－)
4	5V
5	P.SENSOR－2 (+)
6	P.SENSOR－2 (－)
7	PTSW
8	KEY 1

PG2 ←→ CN007
(MECHA (PS1)
SENSOR P.C.B)

1	P.SENSOR 1 (－)
2	5V
3	P.SENSOR 1

PG4 ←→ CN006
(MECHA (INK
SENSOR P.C.B) SENSOR)

1	5V
2	INK SENSOR

PG621 ←→ THERMAL HEAD
(S P.C.B)

1	A5V (D)
2	A5V (D)
3	GND
4	DATA 3
5	GND
6	DATA 2
7	GND
8	DATA 1
9	GND
10	CLOCK
11	STROBE

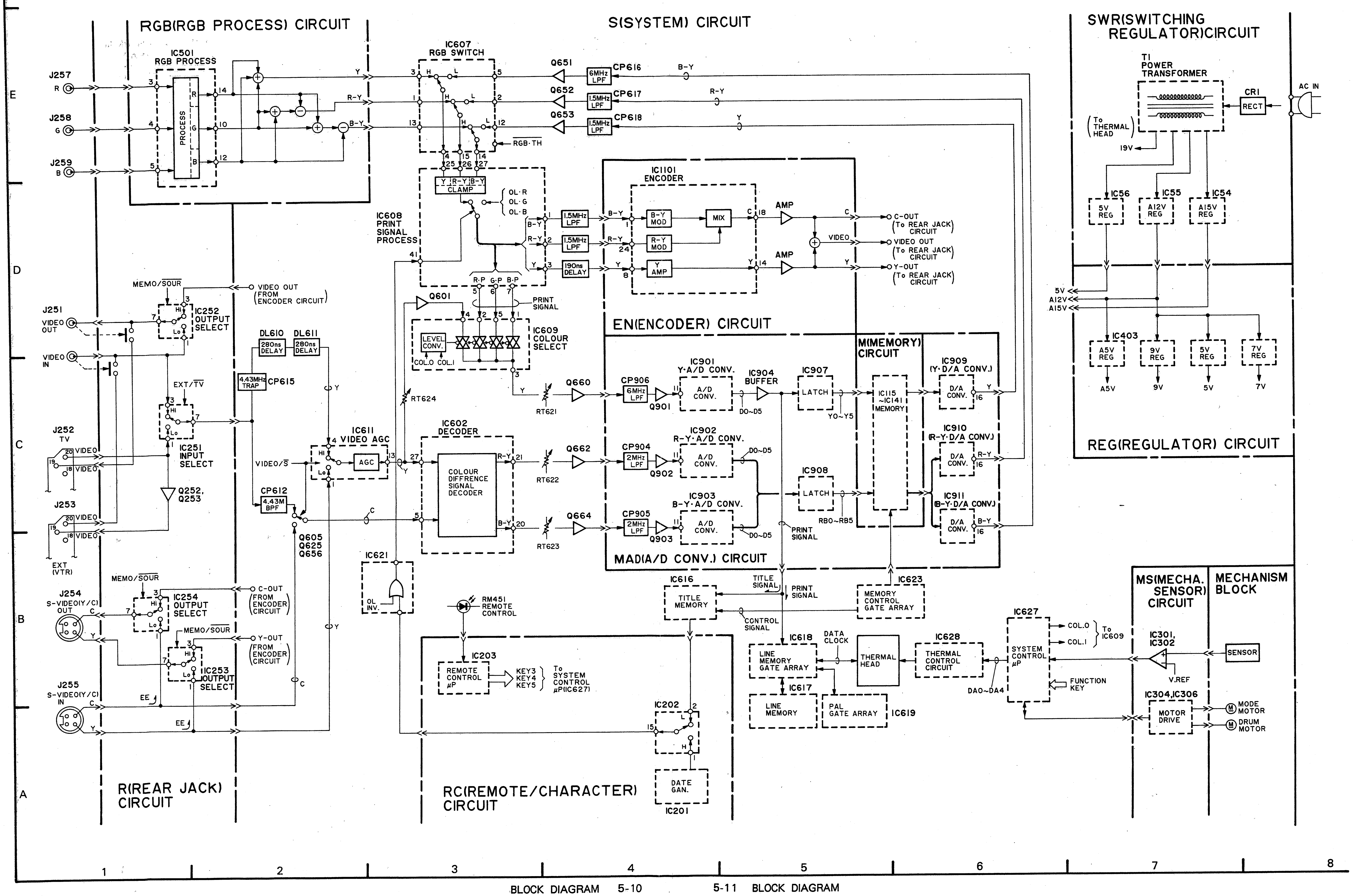
PG622 ←→ THERMAL HEAD
(S P.C.B)

1	GND
2	LATCH
3	THERMAL
4	THERMAL
5	DATA 3
6	GND
7	DATA 2
8	GND
9	DATA 1

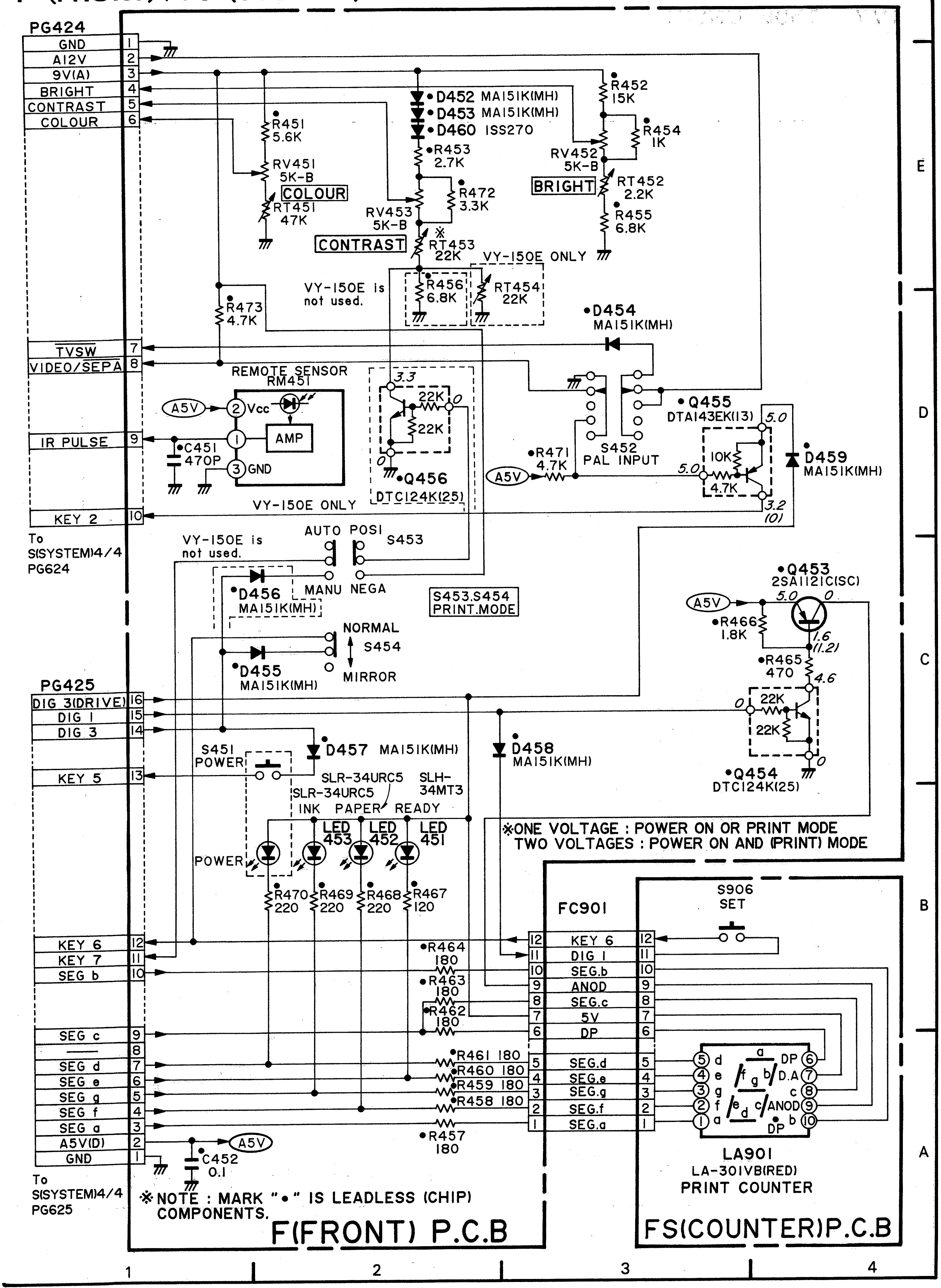
PG310 ←→ MECHANISM
(MS P.C.B)

1	5V	MOTOR FG SENSOR
2	D.MOTOR FG (+)	
3	D.MOTOR FG (－)	
4	D.MOTOR (－)	DRUM MOTOR
5	D.MOTOR (+)	
6	GND	MECHANISM MODE SWITCH
7	M.STATE 1	
8	M.STATE 2	
9	M.STATE 3	
10	M.MOTOR (+)	MODE MOTOR
11	M.MOTOR (－)	
12	FAN (－)	FAN MOTOR
13	FAN (+)	

BLOCK DIAGRAM


RGB(RGB PROCESS) CIRCUIT
IC501
RGB PROCESS
PROCESS
J257
R
J258
G
J259
B
S(SYSTEM) CIRCUIT
IC607
RGB SWITCH
RGB·TH
Q651
Q652
Q653
6MHz LPF
1.5MHz LPF
CP616
CP617
CP618
B-Y
R-Y
Y
IC608
PRINT
SIGNAL
PROCESS
CLAMP
OL·R
OL·G
OL·B
R·P G·P B·P
PRINT SIGNAL
Q601
IC609
COLOUR
SELECT
LEVEL CONV.
COL.0 COL.1
RT624
RT621
RT622
RT623
Q660
Q662
Q664
IC602
DECODER
COLOUR DIFFRENCE SIGNAL DECODER
IC611
VIDEO AGC
AGC
VIDEO/S
DL610
DL611
280ns DELAY
4.43MHz TRAP
CP615
CP612
4.43M BPF
Q605
Q625
Q656
IC621
OL INV.
IC1101
ENCODER
B-Y MOD
R-Y MOD
Y AMP
MIX
AMP
190ns DELAY
C-OUT
(To REAR JACK CIRCUIT)
VIDEO OUT
(To REAR JACK CIRCUIT)
Y-OUT
(To REAR JACK CIRCUIT)
EN(ENCODER) CIRCUIT
M(MEMORY) CIRCUIT
IC115 ~IC141 MEMORY
IC901
Y-A/D CONV.
IC902
R-Y·A/D CONV.
IC903
B-Y·A/D CONV.
A/D CONV.
CP906
CP904
CP905
2MHz LPF
Q901
Q902
Q903
IC904
BUFFER
IC907
IC908
LATCH
D0~D5
Y0~Y5
RB0~RB5
IC909
(Y·D/A CONV.)
IC910
(R-Y·D/A CONV.)
IC911
(B-Y·D/A CONV.)
D/A CONV.
MAD(A/D CONV.) CIRCUIT
PRINT SIGNAL
IC616
TITLE MEMORY
TITLE SIGNAL
CONTROL SIGNAL
IC623
MEMORY CONTROL GATE ARRAY
IC618
LINE MEMORY GATE ARRAY
DATA CLOCK
THERMAL HEAD
IC628
THERMAL CONTROL CIRCUIT
IC617
LINE MEMORY
PAL GATE ARRAY
IC619
DA0~DA4
IC627
SYSTEM CONTROL µP
COL.0
COL.1
To IC609
FUNCTION KEY
RM451
REMOTE CONTROL
IC203
REMOTE CONTROL µP
KEY3
KEY4
KEY5
To SYSTEM CONTROL µP(IC627)
IC202
IC201
DATE GAN.
RC(REMOTE/CHARACTER) CIRCUIT
MEMO/SOUR
VIDEO OUT
(FROM ENCODER CIRCUIT)
J251
VIDEO OUT
VIDEO IN
IC252
OUTPUT SELECT
EXT/TV
IC251
INPUT SELECT
J252
TV
VIDEO
Q252,
Q253
J253
EXT (VTR)
J254
S-VIDEO(Y/C) OUT
IC254
OUTPUT SELECT
C-OUT
(FROM ENCODER CIRCUIT)
Y-OUT
(FROM ENCODER CIRCUIT)
IC253
OUTPUT SELECT
J255
S-VIDEO(Y/C) IN
EE
R(REAR JACK) CIRCUIT
SWR(SWITCHING REGULATOR)CIRCUIT
T1
POWER TRANSFORMER
CR1
RECT
AC IN
(To THERMAL HEAD)
19V
IC56
5V REG
IC55
A12V REG
IC54
A15V REG
5V
A12V
A15V
IC403
A5V REG
9V REG
5V REG
7V REG
A5V
9V
5V
7V
REG(REGULATOR) CIRCUIT
MS(MECHA. SENSOR) CIRCUIT
MECHANISM BLOCK
IC301,
IC302
SENSOR
V.REF
IC304,IC306
MOTOR DRIVE
MODE MOTOR
DRUM MOTOR
E
D
C
B
A
1
2
3
4
5
6
7
8

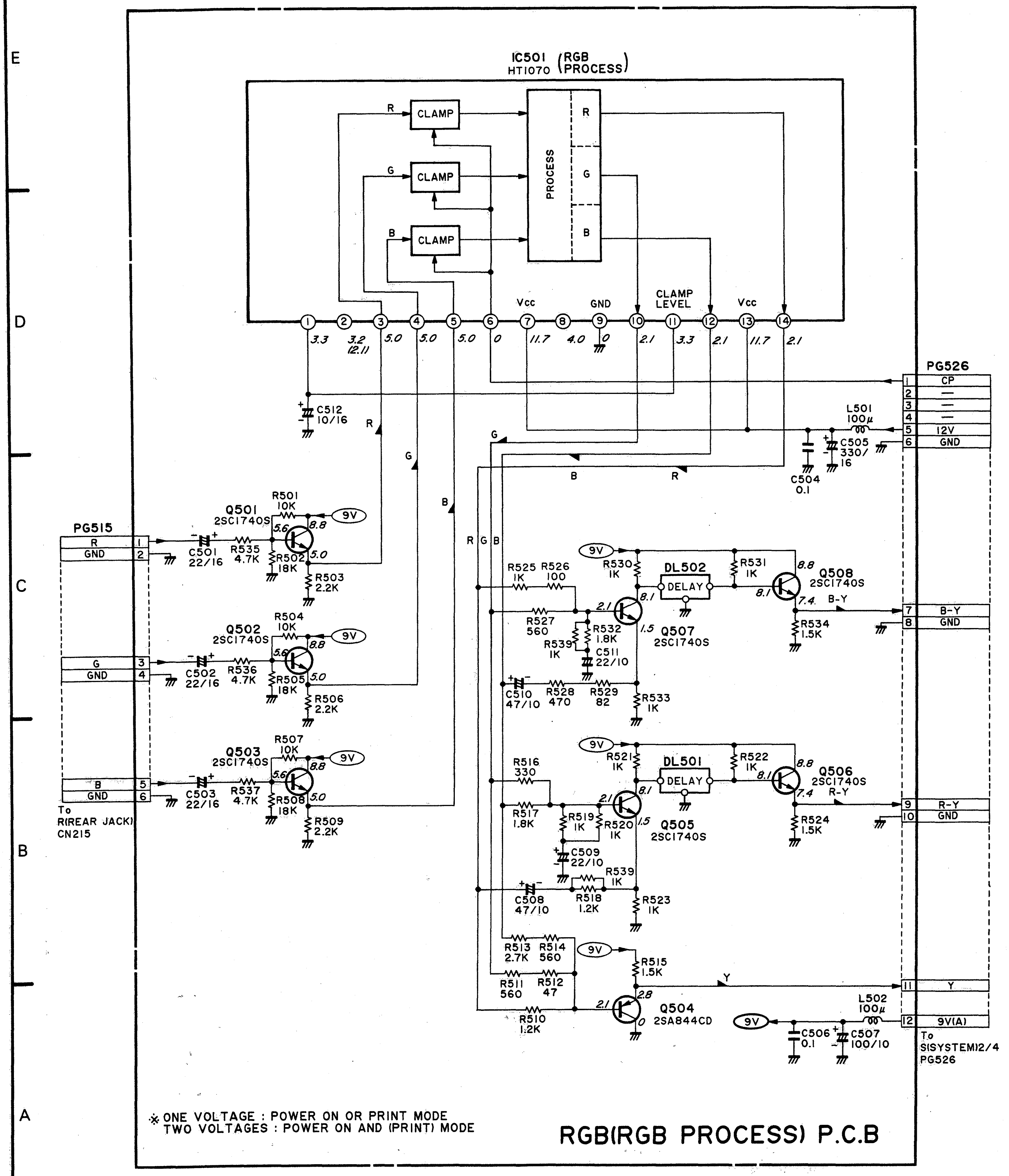
F (FRONT) / FS (COUNTER) SCHEMATIC DIAGRAM


PG424
GND
A12V
9V(A)
BRIGHT
CONTRAST
COLOUR
TVSW
VIDEO/SEPA
IR PULSE
KEY 2
To S(SYSTEM)4/4 PG624
R451 5.6K
RV451 5K-B
COLOUR
RT451 47K
D452 MA151K(MH)
D453 MA151K(MH)
D460 1SS270
R453 2.7K
R472 3.3K
RV453 5K-B
CONTRAST
※ RT453 22K
R452 15K
R454 1K
RV452 5K-B
BRIGHT
RT452 2.2K
R455 6.8K
VY-150E ONLY
VY-150E is not used.
R456 6.8K
RT454 22K
R473 4.7K
D454 MA151K(MH)
REMOTE SENSOR RM451
A5V
Vcc
AMP
GND
C451 470P
3.3
22K
22K
Q456 DTC124K(25)
VY-150E ONLY
S452 PAL INPUT
R471 4.7K
Q455 DTA143EK(13)
10K
4.7K
5.0
3.2 (0)
D459 MA151K(MH)
AUTO POSI
S453
VY-150E is not used.
MANU NEGA
D456 MA151K(MH)
S453.S454 PRINT.MODE
NORMAL
S454
MIRROR
D455 MA151K(MH)
Q453 2SA1121C(SC)
5.0 0
R466 1.8K
1.6 (1.2)
R465 470
4.6
22K
22K
Q454 DTC124K(25)
PG425
DIG 3(DRIVE)
DIG 1
DIG 3
KEY 5
S451 POWER
D457 MA151K(MH)
D458 MA151K(MH)
SLR-34URC5
SLR-34URC5
SLH-34MT3
INK PAPER READY
LED 453
LED 452
LED 451
POWER
R470 220
R469 220
R468 220
R467 120
KEY 6
KEY 7
SEG b
SEG c
SEG d
SEG e
SEG g
SEG f
SEG a
A5V(D)
GND
To S(SYSTEM)4/4 PG625
R464 180
R463 180
R462 180
R461 180
R460 180
R459 180
R458 180
R457 180
C452 0.1
FC901
KEY 6
DIG 1
SEG.b
ANOD
SEG.c
5V
DP
SEG.d
SEG.e
SEG.g
SEG.f
SEG.a
S906 SET
LA901 LA-301VB(RED) PRINT COUNTER
F(FRONT) P.C.B
FS(COUNTER)P.C.B
1 2 3 4
A B C D E

※ONE VOLTAGE : POWER ON OR PRINT MODE
TWO VOLTAGES : POWER ON AND (PRINT) MODE

※NOTE : MARK "•" IS LEADLESS (CHIP) COMPONENTS.

RGB (RGB PROCESS) SCHEMATIC DIAGRAM
(VY − 150E ONLY)

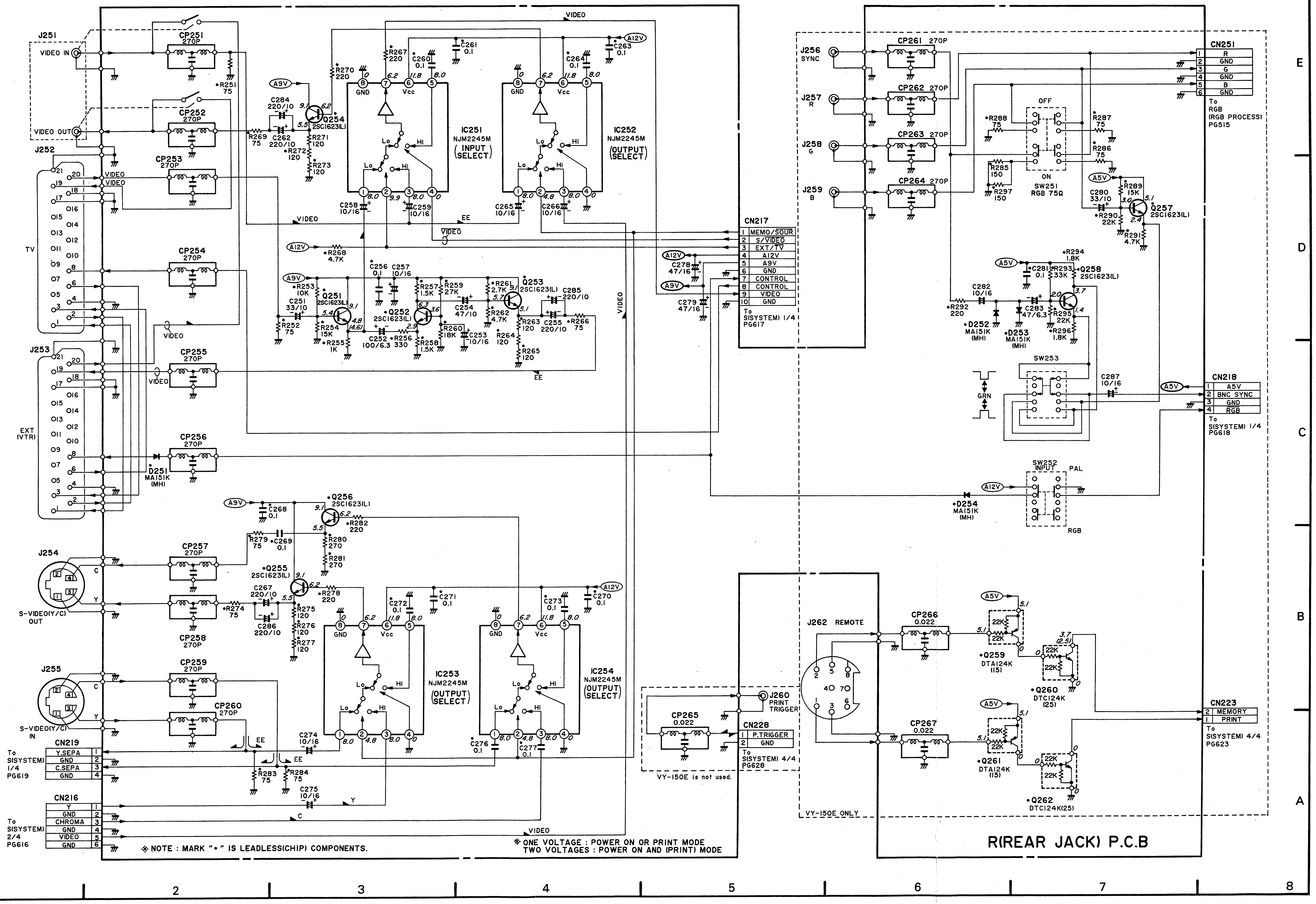


IC501 (RGB PROCESS)
HT1070
CLAMP
CLAMP
CLAMP
PROCESS
R
G
B
Vcc
GND
CLAMP LEVEL
Vcc
3.3
3.2 (12.1)
5.0
5.0
5.0
0
11.7
4.0
0
2.1
3.3
2.1
11.7
2.1
C512 10/16
PG526
CP
12V
GND
L501 100μ
C505 330/16
C504 0.1
PG515
R
GND
G
GND
B
GND
To R(REAR JACK) CN215
Q501 2SC1740S
R501 10K
C501 22/16
R535 4.7K
R502 18K
R503 2.2K
Q502 2SC1740S
R504 10K
C502 22/16
R536 4.7K
R505 18K
R506 2.2K
Q503 2SC1740S
R507 10K
C503 22/16
R537 4.7K
R508 18K
R509 2.2K
9V
5.6
8.8
5.0
R G B
R525 1K
R526 100
R527 560
R530 1K
DL502 DELAY
R531 1K
Q508 2SC1740S
R532 1.8K
R539 1K
C511 22/10
Q507 2SC1740S
C510 47/10
R528 470
R529 82
R533 1K
R534 1.5K
B-Y
GND
8.8
8.1
2.1
1.5
7.4
R516 330
R521 1K
DL501 DELAY
R522 1K
Q506 2SC1740S
R-Y
R517 1.8K
R519 1K
R520 1K
Q505 2SC1740S
C509 22/10
R539 1K
C508 47/10
R518 1.2K
R523 1K
R524 1.5K
GND
R513 2.7K
R514 560
R515 1.5K
R511 560
R512 47
R510 1.2K
Q504 2SA844CD
2.8
2.1
0
Y
L502 100μ
9V(A)
C506 0.1
C507 100/10
To S(SYSTEM)2/4 PG526
A
B
C
D
E
1
2
3
4

※ ONE VOLTAGE : POWER ON OR PRINT MODE
TWO VOLTAGES : POWER ON AND (PRINT) MODE

RGB(RGB PROCESS) P.C.B

R (REAR JACK) SCHEMATIC DIAGRAM


J251
VIDEO IN
VIDEO OUT
J252
TV
J253
EXT (VTR)
J254
S-VIDEO(Y/C) OUT
J255
S-VIDEO(Y/C) IN
CP251 270P
CP252 270P
CP253 270P
CP254 270P
CP255 270P
CP256 270P
CP257 270P
CP258 270P
CP259 270P
CP260 270P
D251 MA151K (MH)
IC251 NJM2245M (INPUT SELECT)
IC252 NJM2245M (OUTPUT SELECT)
IC253 NJM2245M (OUTPUT SELECT)
IC254 NJM2245M (OUTPUT SELECT)
Q251 2SC1623(L)
Q252 2SC1623(L)
Q253 2SC1623(L)
Q254 2SC1623(L)
Q255 2SC1623(L)
Q256 2SC1623(L)
A9V
A12V
VIDEO
EE
Y
C
CN219
Y.SEPA
GND
C.SEPA
GND
To S(SYSTEM) 1/4 PG619
CN216
Y
GND
CHROMA
GND
VIDEO
GND
To S(SYSTEM) 2/4 PG616
CN217
MEMO/SOUR
S/VIDEO
EXT/TV
A12V
A9V
GND
CONTROL
CONTROL
VIDEO
GND
To S(SYSTEM) 1/4 PG617
CN228
P.TRIGGER
GND
To S(SYSTEM) 4/4 PG628
J260 PRINT TRIGGER
CP265 0.022
VY-150E is not used.
J256 SYNC
J257 R
J258 G
J259 B
CP261 270P
CP262 270P
CP263 270P
CP264 270P
SW251 RGB 75Ω
OFF
ON
Q257 2SC1623(L)
Q258 2SC1623(L)
D252 MA151K (MH)
D253 MA151K (MH)
D254 MA151K (MH)
SW253
GRN
SW252 INPUT
PAL
RGB
A5V
CN251
R
GND
G
GND
B
GND
To RGB (RGB PROCESS) PG515
CN218
A5V
BNC SYNC
GND
RGB
To S(SYSTEM) 1/4 PG618
J262 REMOTE
CP266 0.022
CP267 0.022
Q259 DTA124K (15)
Q260 DTC124K (25)
Q261 DTA124K (15)
Q262 DTC124K(25)
CN223
MEMORY
PRINT
To S(SYSTEM) 4/4 PG623
VY-150E ONLY
R(REAR JACK) P.C.B
E
D
C
B
A
1
2
3
4
5
6
7
8

※ NOTE : MARK "•" IS LEADLESS(CHIP) COMPONENTS.

※ ONE VOLTAGE : POWER ON OR PRINT MODE
TWO VOLTAGES : POWER ON AND (PRINT) MODE

S (SYSTEM) SCHEMATIC DIAGRAM (1/4)

SCHEMATIC DIAGRAM PAGE
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BLOCK DIAGRAM...................... 5-10
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(VY-150E ONLY)
R(REAR JACK)......................... 5-14
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S(SYSTEM) 3/4....................... 5-20
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MECHANISM SENSOR/INK CASSETTE
SWITCH/INK SENSOR(RX)/POSITON
SENSOR-1/KH......................... 5-36
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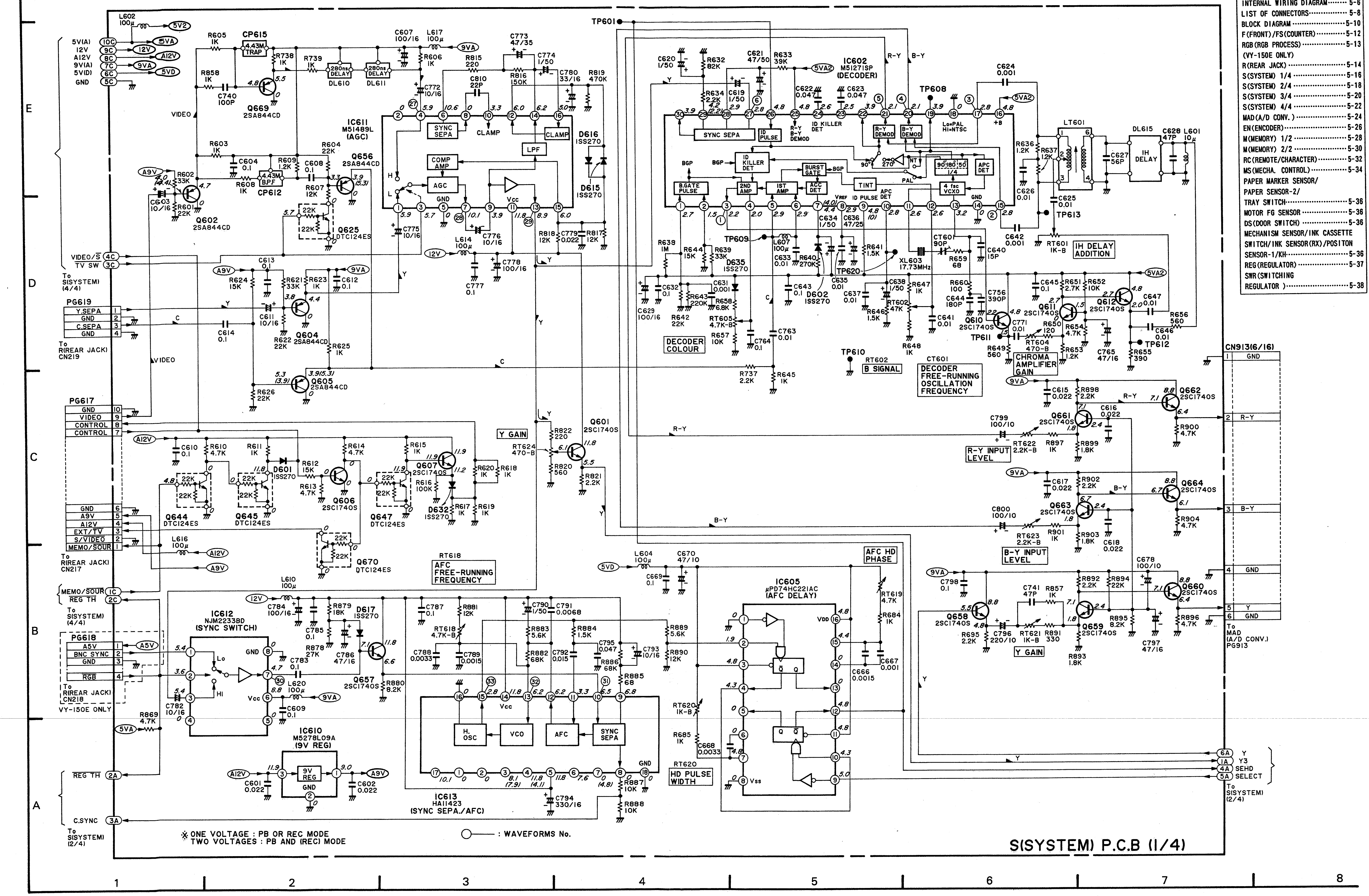
REGULATOR)......................... 5-38



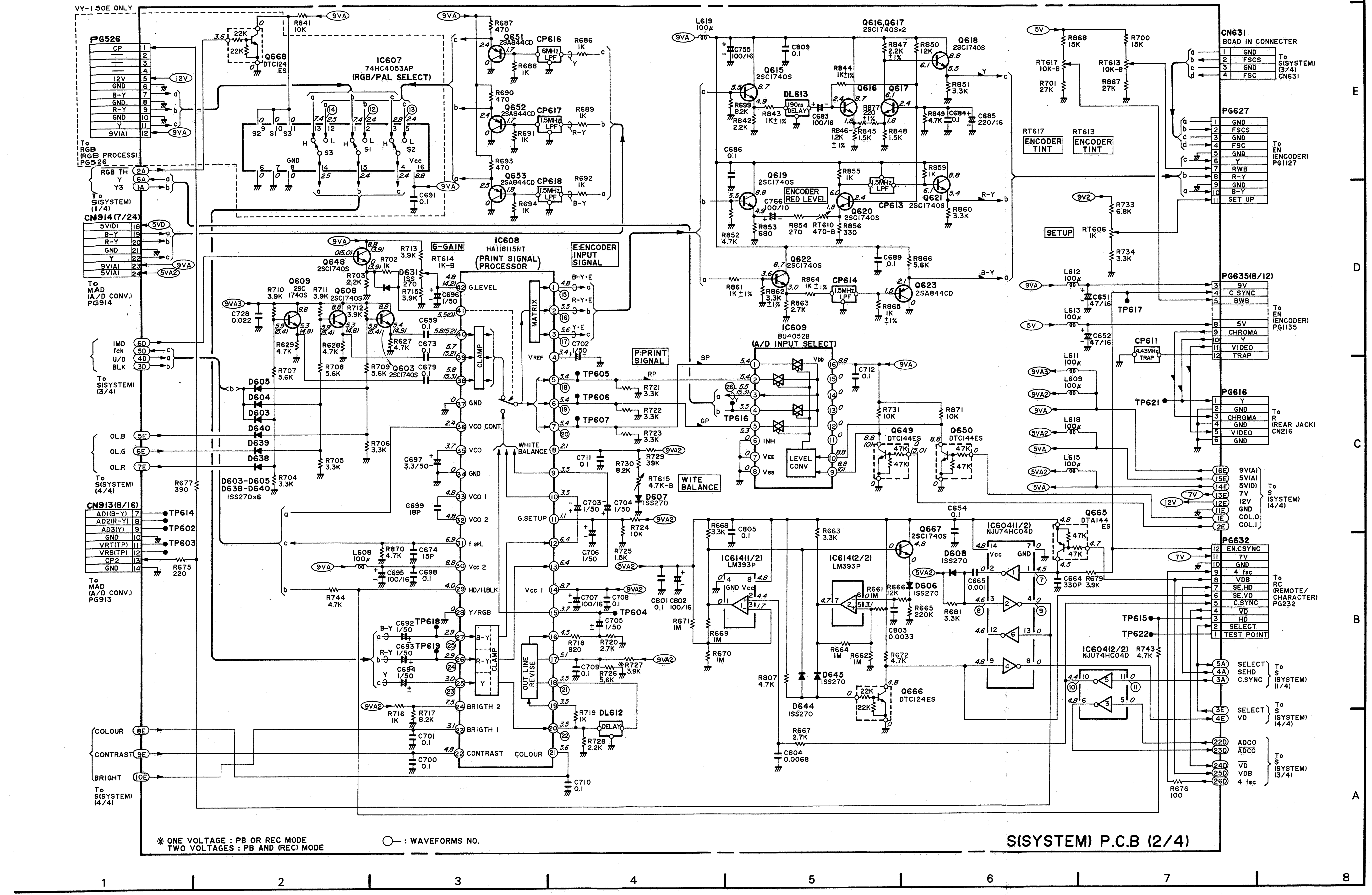
E
D
C
B
A
1
2
3
4
5
6
7
8
5V(A) 10C
12V 9C
A12V 8C
9V(A) 7C
5V(D) 6C
GND 5C
VIDEO/S 4C
TV SW 3C
To S(SYSTEM) (4/4)
PG619
Y.SEPA
GND
C.SEPA
GND
To R(REAR JACK) CN219
PG617
GND
VIDEO
CONTROL
CONTROL
GND
A9V
A12V
EXT/TV
S/VIDEO
MEMO/SOUR
To R(REAR JACK) CN217
MEMO/SOUR 1C
REG TH 2C
To S(SYSTEM) (4/4)
PG618
A5V
BNC SYNC
GND
RGB
To R(REAR JACK) CN218
VY-150E ONLY
REG TH 2A
C.SYNC 3A
To S(SYSTEM) (2/4)
CP615 4.43M TRAP
Q669 2SA844CD
DL610 280ns DELAY
DL611 280ns DELAY
IC611 M51489L (AGC)
SYNC SEPA
CLAMP
COMP AMP
AGC
LPF
Q602 2SA844CD
CP612 4.43M BPF
Q656 2SA844CD
Q625 DTC124ES
D616 1SS270
D615 1SS270
Q604 2SA844CD
Q605 2SA844CD
Q644 DTC124ES
Q645 DTC124ES
Q606 2SC1740S
D601 1SS270
Q647 DTC124ES
Q607 2SC1740S
D632 1SS270
Q670 DTC124ES
RT618 AFC FREE-RUNNING FREQUENCY
Y GAIN
RT624 470-B
Q601 2SC1740S
TP601
IC602 M51271SP (DECODER)
SYNC SEPA
ID PULSE
R-Y B-Y DEMOD
ID KILLER DET
R-Y DEMOD
B-Y DEMOD
Lo=PAL Hi=NTSC
B.GATE PULSE
2ND AMP
1ST AMP
ACC DET
BURST GATE
TINT
4 fsc VCXO
APC DET
90°/180°/50 1/4
PAL
NT
TP608
TP609
TP613
TP620
D635 1SS270
D602 1SS270
XL603 17.73MHz
CT601
IH DELAY ADDITION
RT601 IK-B
LT601
DL615 IH DELAY
DECODER COLOUR
TP610
RT602 B SIGNAL
DECODER FREE-RUNNING OSCILLATION FREQUENCY
Q610 2SC1740S
Q611 2SC1740S
Q612 2SC1740S
TP611
TP612
RT604 470-B
CHROMA AMPLIFIER GAIN
Q661 2SC1740S
Q662 2SC1740S
RT622 2.2K-B
R-Y INPUT LEVEL
Q663 2SC1740S
Q664 2SC1740S
RT623 2.2K-B
B-Y INPUT LEVEL
Q658 2SC1740S
Q659 2SC1740S
Q660 2SC1740S
RT621 IK-B
Y GAIN
CN913(6/16)
GND
R-Y
B-Y
GND
Y
GND
To MAD (A/D CONV.) PG913
IC612 NJM2233BD (SYNC SWITCH)
Lo
HI
Q657 2SC1740S
D617 1SS270
IC610 M5278L09A (9V REG)
9V REG
IC613 HA11423 (SYNC SEPA./AFC)
H. OSC
VCO
AFC
SYNC SEPA
IC605 μPD74HC221AC (AFC DELAY)
AFC HD PHASE
RT619 4.7K
RT620 IK-B
RT620 HD PULSE WIDTH
6A Y
1A Y3
4A SEHD
5A SELECT
To S(SYSTEM) (2/4)

※ ONE VOLTAGE : PB OR REC MODE
TWO VOLTAGES : PB AND (REC) MODE

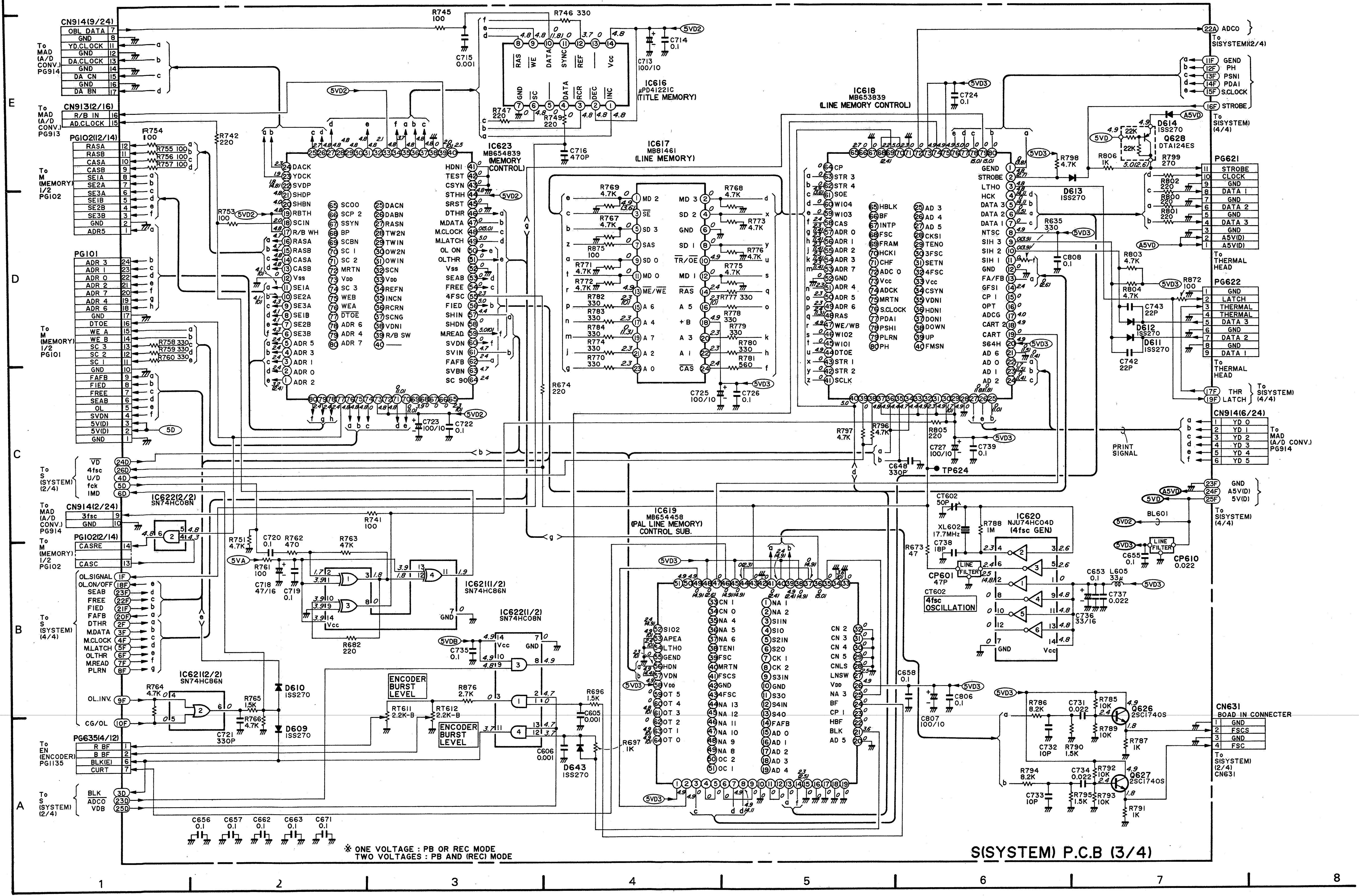
○—— : WAVEFORMS No.

S(SYSTEM) P.C.B (1/4)

S (SYSTEM) SCHEMATIC DIAGRAM (2/4)

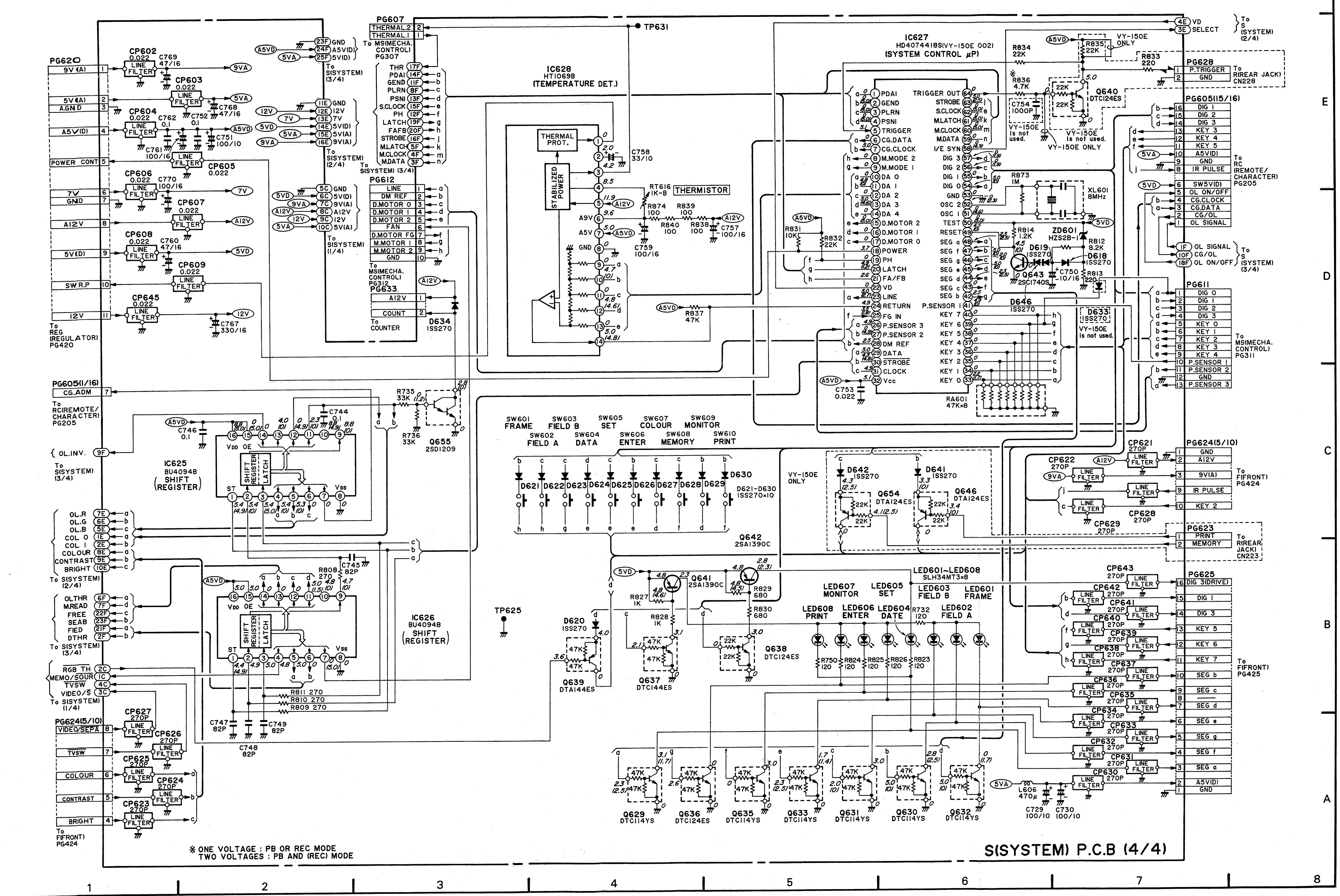

VY-150E ONLY
PG526
To RGB (RGB PROCESS) PG526
CN914(7/24)
To MAD (A/D CONV.) PG914
CN913(8/16)
To MAD (A/D CONV.) PG913
IC607 74HC4053AP (RGB/PAL SELECT)
IC608 HA118115NT (PRINT SIGNAL PROCESSOR)
G-GAIN
E:ENCODER INPUT SIGNAL
P:PRINT SIGNAL
WITE BALANCE
MATRIX
CLAMP
OUT LINE REVISE
DL612 DELAY
DL613 190ns DELAY
IC609 BU4052B (A/D INPUT SELECT)
LEVEL CONV
IC614(1/2) LM393P
IC614(2/2) LM393P
IC604(1/2) NJU74HC04D
IC604(2/2) NJU74HC04D
Q616,Q617 2SC1740S×2
ENCODER RED LEVEL
ENCODER TINT
SETUP
CN631 BOAD IN CONNECTER
To S(SYSTEM) (3/4) CN631
PG627
To EN (ENCODER) PG1127
PG635(8/12)
To EN (ENCODER) PG1135
PG616
To R (REAR JACK) CN216
PG632
To RC (REMOTE/ CHARACTER) PG232
To S (SYSTEM) (1/4)
To S (SYSTEM) (3/4)
To S (SYSTEM) (4/4)
CP611 4.43MHz TRAP
CP616 6MHz LPF
CP617 1.5MHz LPF
CP618 1.5MHz LPF
CP613
CP614 1.5MHz LPF
※ ONE VOLTAGE : PB OR REC MODE
TWO VOLTAGES : PB AND (REC) MODE
○— : WAVEFORMS NO.
S(SYSTEM) P.C.B (2/4)
1
2
3
4
5
6
7
8
E
D
C
B
A

S (SYSTEM) SCHEMATIC DIAGRAM (3/4)


CN914(9/24)
OBL DATA
GND
YD.CLOCK
DA.CLOCK
DA CN
DA BN
To MAD (A/D CONV.) PG914
CN913(2/16)
R/B IN
AD.CLOCK
To MAD (A/D CONV.) PG913
PG102(12/14)
RASA
RASB
CASA
CASB
SE1A
SE2A
SE3A
SE1B
SE2B
SE3B
ADR5
To M (MEMORY) 1/2 PG102
PG101
DTOE
WE A
WE B
SC 3
SC 2
SC 1
FAFB
FIED
FREE
SEAB
OL
SVDN
5V(D)
To M (MEMORY) 1/2 PG101
To S (SYSTEM) (2/4)
CN914(2/24)
3fsc
PG102(2/14)
CASRE
CASC
OL.SIGNAL
OL.ON/OFF
M.DATA
M.CLOCK
M.LATCH
OLTHR
M.READ
PLRN
To S (SYSTEM) (4/4)
OL.INV.
CG/OL
PG635(4/12)
R BF
B BF
BLK(E)
CURT
To EN (ENCODER) PG1135
BLK
ADCO
VDB
To S (SYSTEM) (2/4)
IC616
μPD41221C
(TITLE MEMORY)
IC623
MB654839
(MEMORY CONTROL)
IC617
MB81461
(LINE MEMORY)
IC618
MB653839
(LINE MEMORY CONTROL)
IC619
MB654458
(PAL LINE MEMORY)
CONTROL SUB.
IC620
NJU74HC04D
(4fsc GEN)
IC621(1/2)
SN74HC86N
IC621(2/2)
SN74HC86N
IC622(1/2)
SN74HC08N
IC622(2/2)
SN74HC08N
ENCODER BURST LEVEL
XL602
17.7MHz
CP601
CP610
LINE FILTER
4fsc OSCILLATION
Q626
2SC1740S
Q627
2SC1740S
Q628
DTA124ES
D609
D610
D611
D612
D613
D614
D643
1SS270
TP624
BL601
PRINT SIGNAL
ADCO
To S(SYSTEM)(2/4)
GEND
PH
PSNI
PDAI
S.CLOCK
STROBE
To S(SYSTEM) (4/4)
PG621
STROBE
CLOCK
DATA 1
DATA 2
DATA 3
A5V(D)
To THERMAL HEAD
PG622
LATCH
THERMAL
To THERMAL HEAD
THR
LATCH
CN914(6/24)
YD 0
YD 1
YD 2
YD 3
YD 4
YD 5
To MAD (A/D CONV.) PG914
CN631
BOAD IN CONNECTER
GND
FSCS
FSC
To S(SYSTEM) (2/4) CN631
S(SYSTEM) P.C.B (3/4)
1
2
3
4
5
6
7
8
A
B
C
D
E

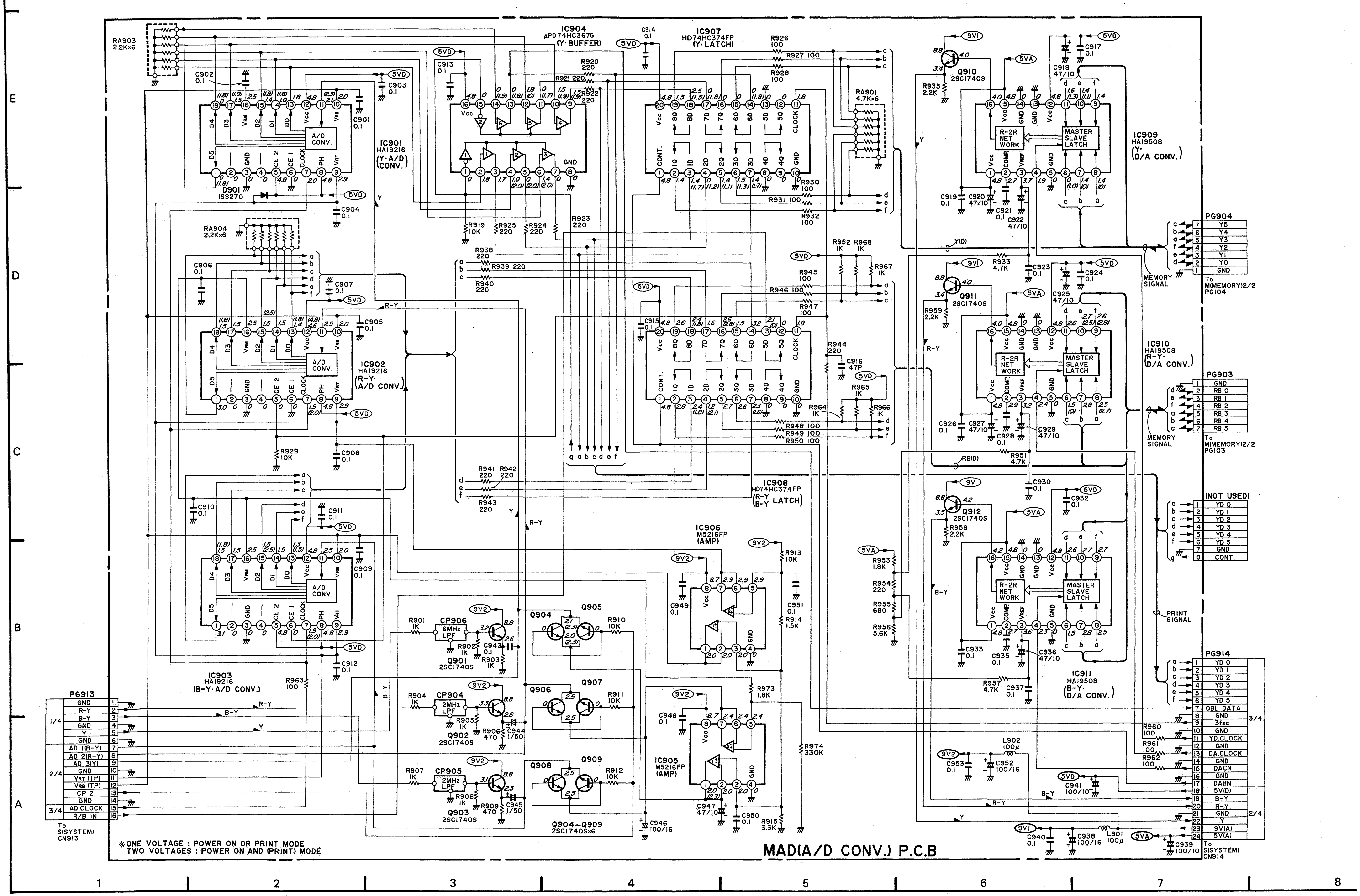
※ ONE VOLTAGE : PB OR REC MODE
TWO VOLTAGES : PB AND (REC) MODE

S (SYSTEM) SCHEMATIC DIAGRAM (4/4)


S(SYSTEM) P.C.B (4/4)
IC627 HD4074418S(VY-150E 002I) (SYSTEM CONTROL µP)
IC628 HT1069B (TEMPERATURE DET.)
THERMAL PROT.
STABILIZED POWER
RT616 1K-B THERMISTOR
IC625 BU4094B SHIFT (REGISTER)
IC626 BU4094B SHIFT (REGISTER)
SHIFT REGISTER
LATCH
Q655 2SD1209
Q640 DTC124ES
Q643 2SC1740S
Q642 2SA1390C
Q641 2SA1390C
Q654 DTA124ES
Q646 DTA124ES
Q638 DTC124ES
Q637 DTC144ES
Q639 DTA144ES
Q629 DTC114YS
Q636 DTC124ES
Q635 DTC114YS
Q633 DTC114YS
Q631 DTC114YS
Q630 DTC114YS
Q632 DTC114YS
XL601 8MHz
ZD601 HZS2B-1
D634 1SS270
D646 1SS270
D620 1SS270
D621~D630 1SS270×10
LED601~LED608 SLH34MT3×8
LED607 MONITOR
LED605 SET
LED603 FIELD B
LED601 FRAME
LED608 PRINT
LED606 ENTER
LED604 DATE
LED602 FIELD A
SW601 FRAME
SW603 FIELD B
SW605 SET
SW607 COLOUR
SW609 MONITOR
SW602 FIELD A
SW604 DATA
SW606 ENTER
SW608 MEMORY
SW610 PRINT
RA601 47K×8
TP631
TP625
PG620
PG607
PG612
PG633
PG605(1/16)
PG605(15/16)
PG628
PG611
PG624(5/10)
PG623
PG625
To REG (REGULATOR) PG420
To RC(REMOTE/CHARACTER) PG205
To S(SYSTEM) (2/4)
To S(SYSTEM) (3/4)
To S(SYSTEM) (1/4)
To MS(MECHA. CONTROL) PG307
To MS(MECHA. CONTROL) PG312
To MS(MECHA. CONTROL) PG311
To COUNTER
To R(REAR JACK) CN228
To R(REAR JACK) CN223
To F(FRONT) PG424
To F(FRONT) PG425
VY-150E ONLY
VY-150E is not used.
1
2
3
4
5
6
7
8
A
B
C
D
E

※ ONE VOLTAGE : PB OR REC MODE
TWO VOLTAGES : PB AND (REC) MODE

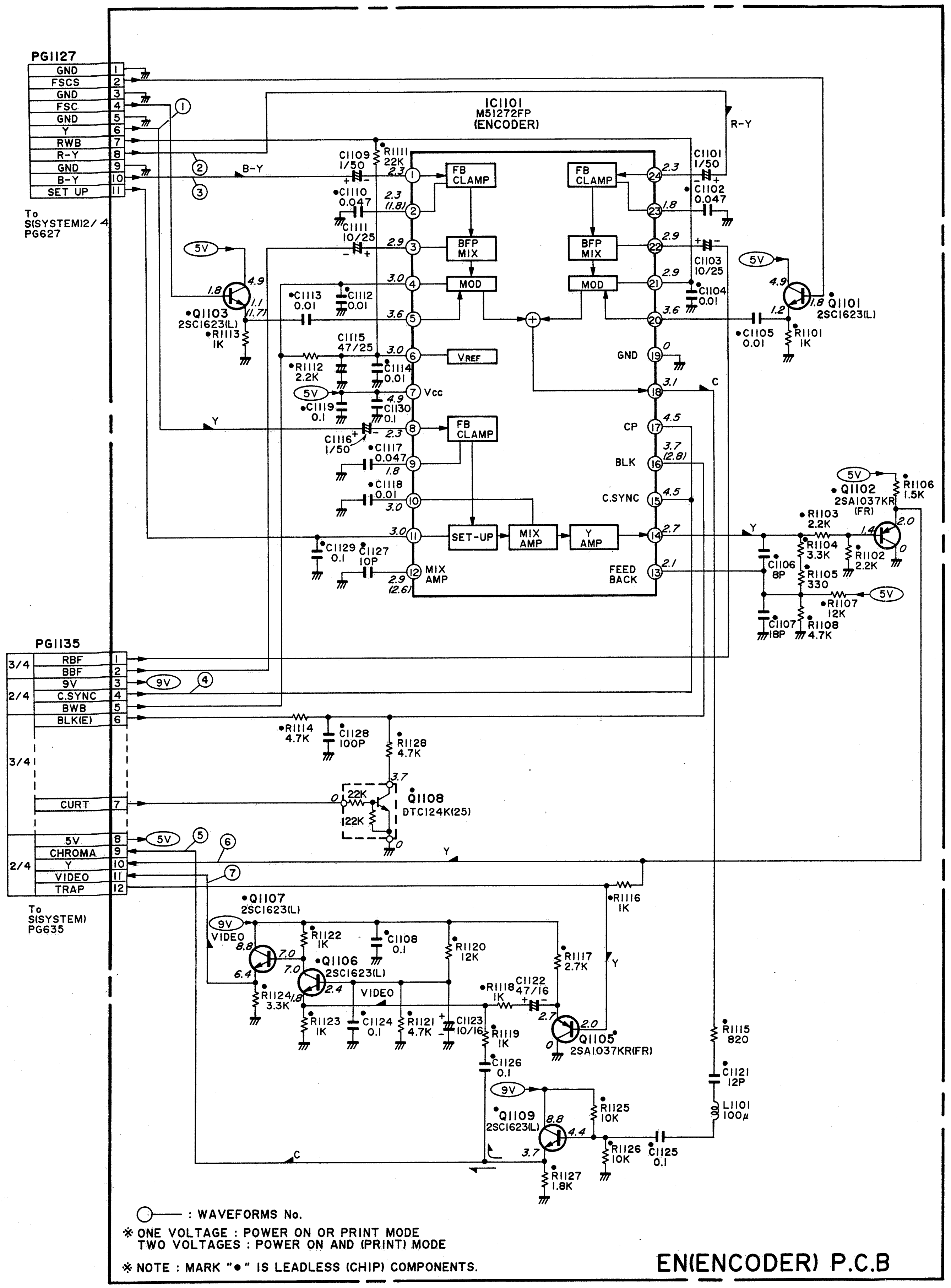
MAD (A/D CONV.) SCHEMATIC DIAGRAM



RA903 2.2K×6
IC904 μPD74HC367G (Y·BUFFER)
IC907 HD74HC374FP (Y·LATCH)
IC901 HA19216 (Y·A/D CONV.)
IC902 HA19216 (R-Y·A/D CONV.)
IC903 HA19216 (B-Y·A/D CONV.)
IC908 HD74HC374FP (R-Y B-Y LATCH)
IC909 HA19508 (Y·D/A CONV.)
IC910 HA19508 (R-Y·D/A CONV.)
IC911 HA19508 (B-Y·D/A CONV.)
IC906 M5216FP (AMP)
IC905 M5216FP (AMP)
A/D CONV.
R-2R NET WORK
MASTER SLAVE LATCH
D901 1SS270
RA904 2.2K×6
RA901 4.7K×6
Q910 2SC1740S
Q911 2SC1740S
Q912 2SC1740S
Q901 2SC1740S
Q902 2SC1740S
Q903 2SC1740S
Q904~Q909 2SC1740S×6
CP906 6MHz LPF
CP904 2MHz LPF
CP905 2MHz LPF
L902 100μ
L901 100μ
5VD
5VA
9V1
9V2
MEMORY SIGNAL
PRINT SIGNAL
PG913
1 GND
2 R-Y
3 B-Y
4 GND
5 Y
6 GND
7 AD 1(B-Y)
8 AD 2(R-Y)
9 AD 3(Y)
10 GND
11 VRT (TP)
12 VRB (TP)
13 CP 2
14 GND
15 AD.CLOCK
16 R/B IN
1/4
2/4
3/4
To S(SYSTEM) CN913
PG904
7 Y5
6 Y4
5 Y3
4 Y2
3 Y1
2 Y0
1 GND
To M(MEMORY)2/2 PG104
PG903
1 GND
2 RB 0
3 RB 1
4 RB 2
5 RB 3
6 RB 4
7 RB 5
To M(MEMORY)2/2 PG103
(NOT USED)
1 YD 0
2 YD 1
3 YD 2
4 YD 3
5 YD 4
6 YD 5
7 GND
8 CONT.
PG914
1 YD 0
2 YD 1
3 YD 2
4 YD 3
5 YD 4
6 YD 5
7 OBL DATA
8 GND
9 3fsc
10 GND
11 YD.CLOCK
12 GND
13 DA.CLOCK
14 GND
15 DACN
16 GND
17 DABN
18 5V(D)
19 B-Y
20 R-Y
21 GND
22 Y
23 9V(A)
24 5V(A)
3/4
2/4
To S(SYSTEM) CN914
MAD(A/D CONV.) P.C.B
E
D
C
B
A
1
2
3
4
5
6
7
8

※ONE VOLTAGE : POWER ON OR PRINT MODE
TWO VOLTAGES : POWER ON AND (PRINT) MODE

EN (ENCODER) SCHEMATIC DIAGRAM


PG1127
1 GND
2 FSCS
3 GND
4 FSC
5 GND
6 Y
7 RWB
8 R-Y
9 GND
10 B-Y
11 SET UP
To S(SYSTEM)2/4 PG627
IC1101
M51272FP
(ENCODER)
FB CLAMP
BFP MIX
MOD
VREF
Vcc
SET-UP
MIX AMP
Y AMP
GND
CP
BLK
C.SYNC
FEED BACK
R-Y
B-Y
Y
C
5V
9V
•Q1103
2SC1623(L)
•R1113
1K
C1109
1/50
•R1111
22K
•C1110
0.047
C1111
10/25
•C1113
0.01
•C1112
0.01
C1115
47/25
•R1112
2.2K
•C1114
0.01
•C1119
0.1
C1130
0.1
C1116
1/50
•C1117
0.047
•C1118
0.01
•C1129
0.1
C1127
10P
C1101
1/50
•C1102
0.047
C1103
10/25
•C1104
0.01
•Q1101
2SC1623(L)
•C1105
0.01
•R1101
1K
•Q1102
2SA1037KR
(FR)
•R1106
1.5K
•R1103
2.2K
•R1104
3.3K
•R1102
2.2K
•C1106
8P
•R1105
330
•R1107
12K
•C1107
18P
•R1108
4.7K
PG1135
3/4
1 RBF
2 BBF
2/4
3 9V
4 C.SYNC
5 BWB
6 BLK(E)
3/4
7 CURT
2/4
8 5V
9 CHROMA
10 Y
11 VIDEO
12 TRAP
To S(SYSTEM) PG635
•R1114
4.7K
•C1128
100P
•R1128
4.7K
22K
22K
•Q1108
DTC124K(25)
•Q1107
2SC1623(L)
VIDEO
•R1122
1K
•C1108
0.1
•R1120
12K
•Q1106
2SC1623(L)
•R1124
3.3K
•R1123
1K
•C1124
0.1
•R1121
4.7K
C1123
10/16
•R1118
1K
C1122
47/16
•R1119
1K
•C1126
0.1
•R1117
2.7K
•Q1105
2SA1037KR(FR)
•R1116
1K
•R1115
820
•C1121
12P
L1101
100μ
•Q1109
2SC1623(L)
•R1125
10K
•R1126
10K
C1125
0.1
•R1127
1.8K
①
②
③
④
⑤
⑥
⑦
EN(ENCODER) P.C.B

○—— : WAVEFORMS No.

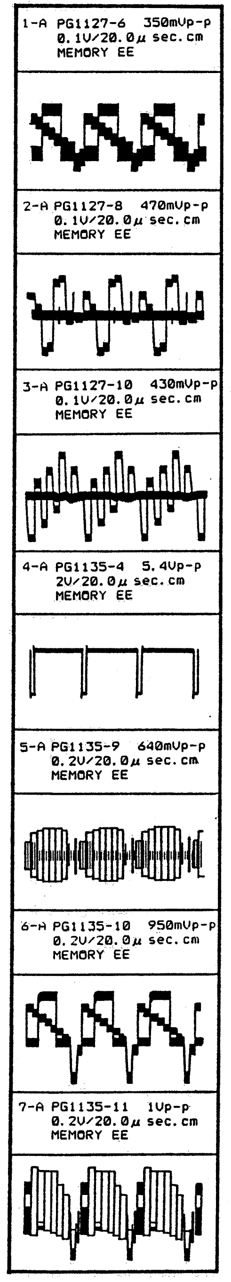
※ ONE VOLTAGE : POWER ON OR PRINT MODE
TWO VOLTAGES : POWER ON AND (PRINT) MODE

※ NOTE : MARK "•" IS LEADLESS (CHIP) COMPONENTS.

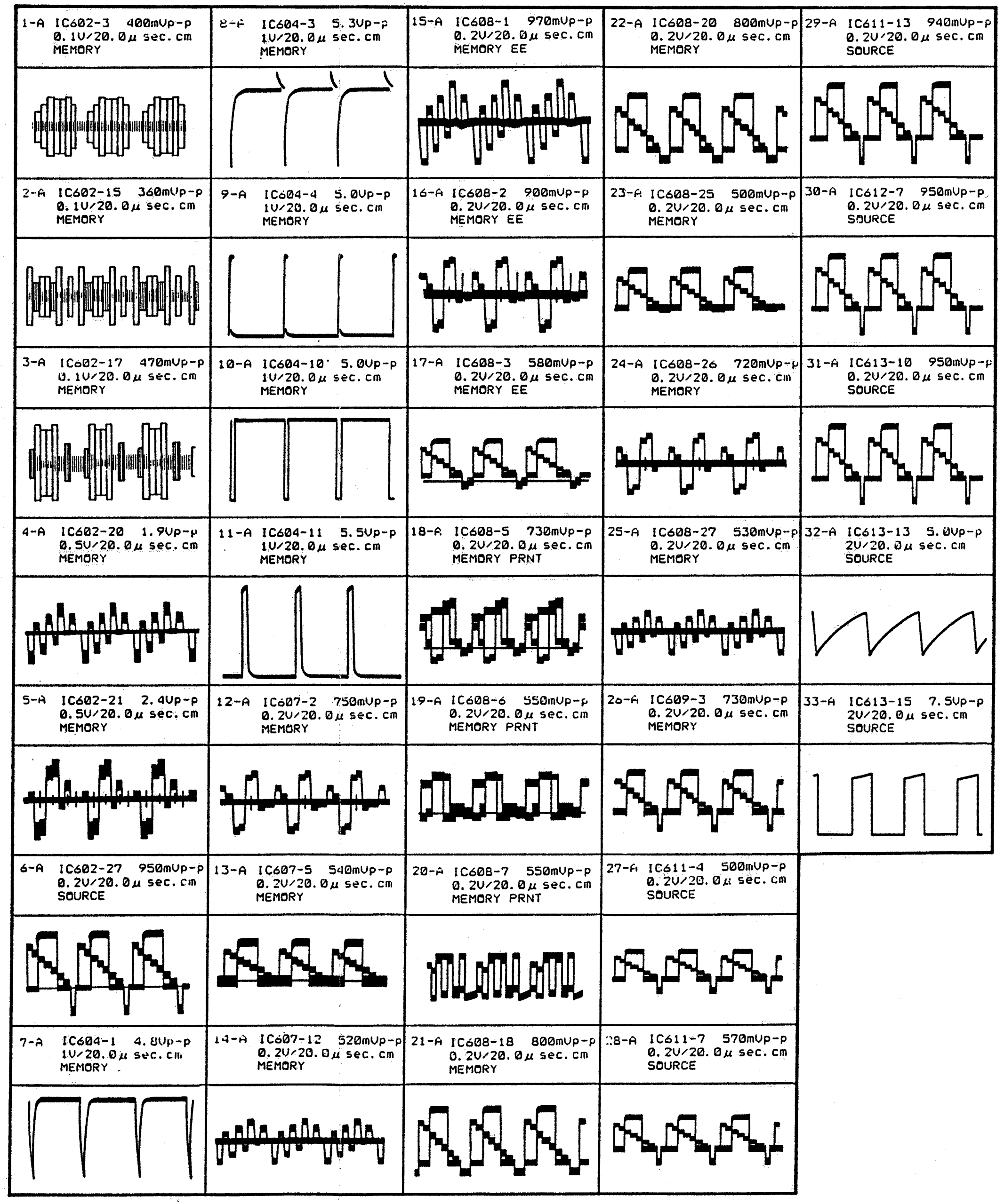
EN (ENCODER) WAVEFORMS S (SYSTEM) WAVEFORMS

1. MEMORY mode : State in which the MEMORY switch is pressed.
2. SOURCE mode : State in which the MEMORY/SOURCE switch is pressed and the LED goes out (SOURCE picture).
3. MEMORY/EE mode : State in which the EE signal is output from the memory to the monitor.
4. MEMORY/PRINT mode : State in which the print signal is output from the memory.

EN(ENCODER)

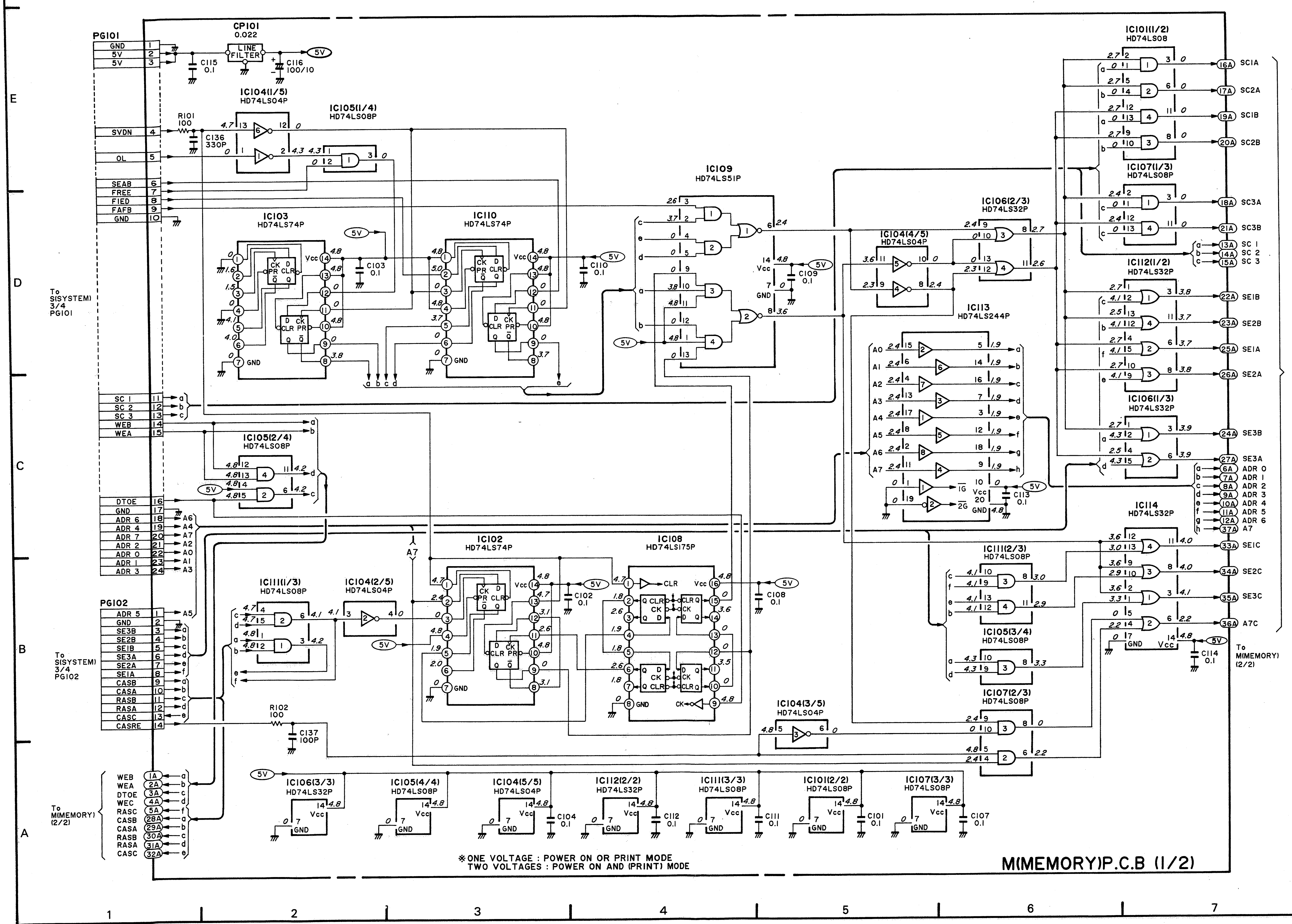


S(SYSTEM)



E
D
C
B
A

M (MEMORY) SCHEMATIC DIAGRAM (1/2)


E
D
C
B
A
1
2
3
4
5
6
7
PG101
GND
5V
5V
SVDN
OL
SEAB
FREE
FIED
FAFB
GND
To S(SYSTEM) 3/4 PG101
SC 1
SC 2
SC 3
WEB
WEA
DTOE
GND
ADR 6
ADR 4
ADR 7
ADR 2
ADR 0
ADR 1
ADR 3
PG102
ADR 5
GND
SE3B
SE2B
SE1B
SE3A
SE2A
SE1A
CASB
CASA
RASB
RASA
CASC
CASRE
To S(SYSTEM) 3/4 PG102
To M(MEMORY) (2/2)
WEB
WEA
DTOE
WEC
RASC
CASB
CASA
RASB
RASA
CASC
CP101 0.022
LINE FILTER
C115 0.1
C116 100/10
5V
R101 100
C136 330P
IC104(1/5) HD74LS04P
IC105(1/4) HD74LS08P
IC103 HD74LS74P
IC110 HD74LS74P
C103 0.1
C110 0.1
IC109 HD74LS51P
C109 0.1
IC106(2/3) HD74LS32P
IC104(4/5) HD74LS04P
IC113 HD74LS244P
IC101(1/2) HD74LS08
IC107(1/3) HD74LS08P
IC112(1/2) HD74LS32P
IC106(1/3) HD74LS32P
IC114 HD74LS32P
IC111(2/3) HD74LS08P
IC105(3/4) HD74LS08P
IC107(2/3) HD74LS08P
IC104(3/5) HD74LS04P
C114 0.1
IC105(2/4) HD74LS08P
IC102 HD74LS74P
IC108 HD74LS175P
C102 0.1
C108 0.1
IC111(1/3) HD74LS08P
IC104(2/5) HD74LS04P
R102 100
C137 100P
IC106(3/3) HD74LS32P
IC105(4/4) HD74LS08P
IC104(5/5) HD74LS04P
IC112(2/2) HD74LS32P
IC111(3/3) HD74LS08P
IC101(2/2) HD74LS08P
IC107(3/3) HD74LS08P
C104 0.1
C112 0.1
C111 0.1
C101 0.1
C107 0.1
SC1A
SC2A
SC1B
SC2B
SC3A
SC3B
SC 1
SC 2
SC 3
SE1B
SE2B
SE1A
SE2A
SE3B
SE3A
ADR 0
ADR 1
ADR 2
ADR 3
ADR 4
ADR 5
ADR 6
A7
SE1C
SE2C
SE3C
A7C
To M(MEMORY) (2/2)
A0
A1
A2
A3
A4
A5
A6
A7
CLR
CK
Vcc
GND

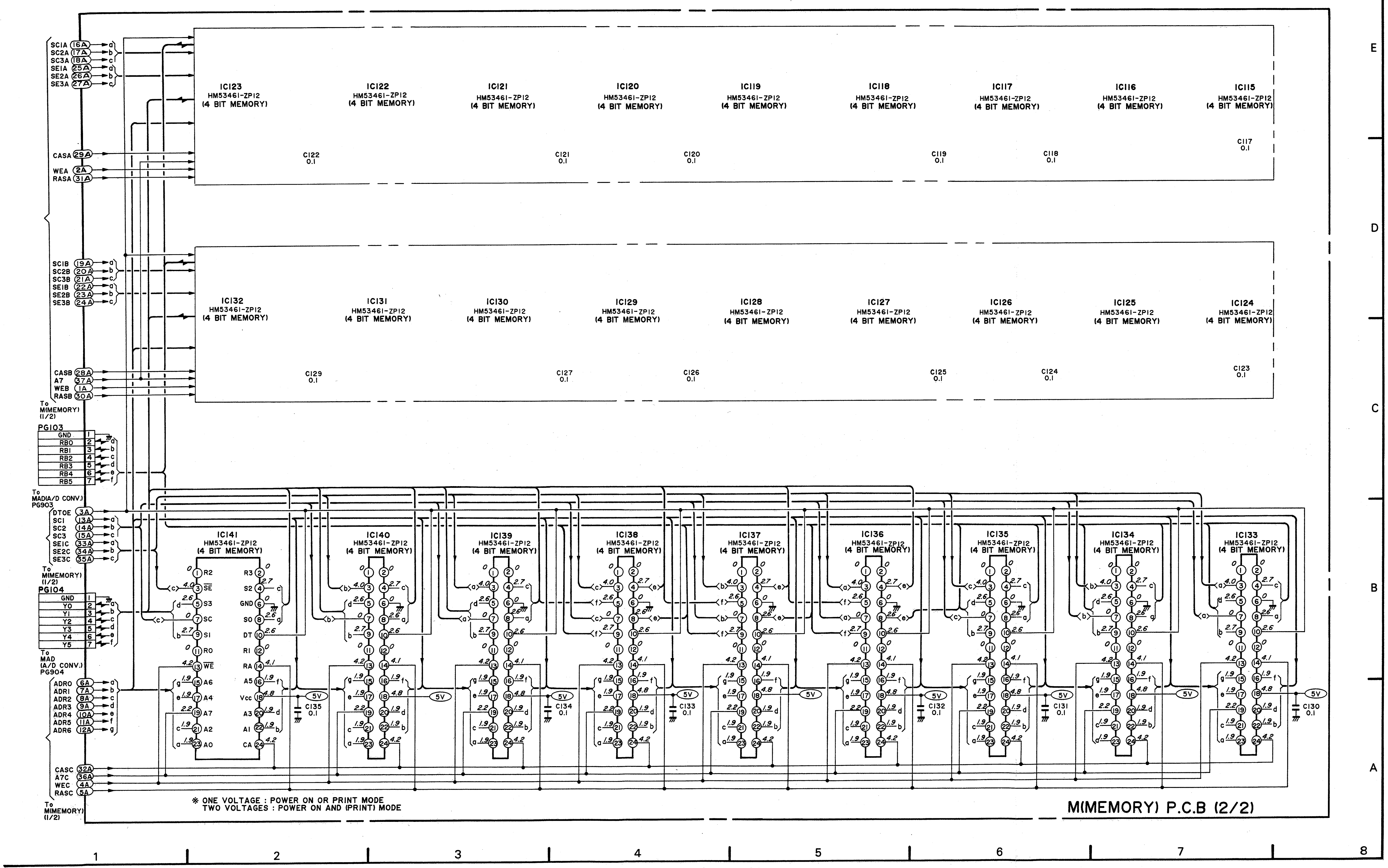
※ONE VOLTAGE : POWER ON OR PRINT MODE
TWO VOLTAGES : POWER ON AND (PRINT) MODE

M(MEMORY)P.C.B (1/2)

8

SCHEMATIC DIAGRAM PAGE
INTERNAL WIRING DIAGRAM········ 5-6
LIST OF CONNECTORS················ 5-8
BLOCK DIAGRAM ······················5-10
F(FRONT)/FS(COUNTER)············5-12
RGB(RGB PROCESS) ··················5-13
(VY-150E ONLY)
R(REAR JACK) ························5-14
S(SYSTEM) 1/4 ······················5-16
S(SYSTEM) 2/4 ······················5-18
S(SYSTEM) 3/4 ······················5-20
S(SYSTEM) 4/4 ······················5-22
MAD(A/D CONV.)·····················5-24
EN(ENCODER)··························5-26
M(MEMORY) 1/2 ······················5-28
M(MEMORY) 2/2 ······················5-30
RC(REMOTE/CHARACTER)············5-32
MS(MECHA. CONTROL)···············5-34
PAPER MARKER SENSOR/
PAPER SENSOR-2/
TRAY SWITCH··························5-36
MOTOR FG SENSOR ···················5-36
DS(DOOR SWITCH) ····················5-36
MECHANISM SENSOR/INK CASSETTE
SWITCH/INK SENSOR(RX)/POSITON
SENSOR-1/KH··························5-36
REG(REGULATOR) ·····················5-37
SWR(SWITCHING
REGULATOR)··························5-38

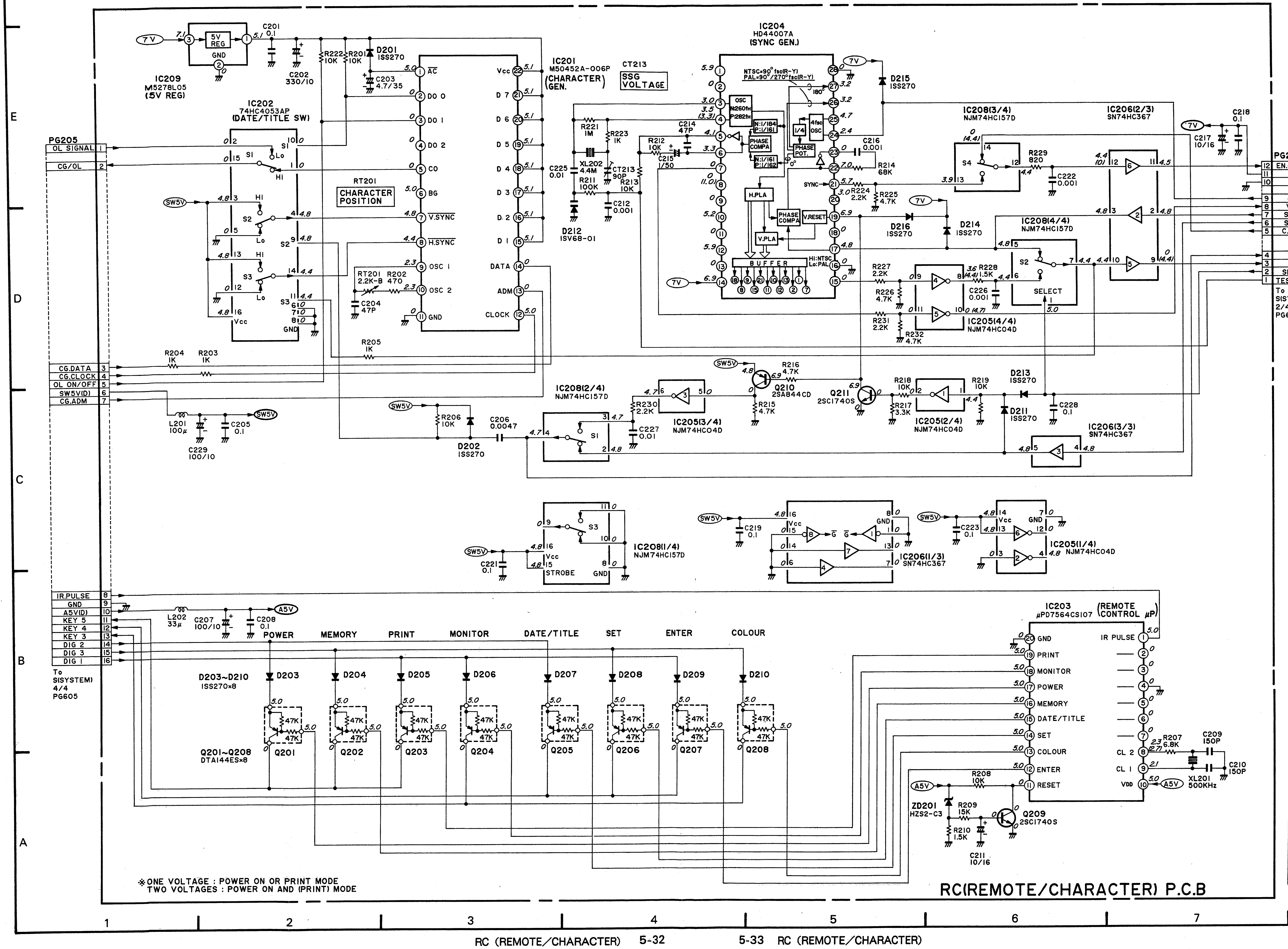
M (MEMORY) SCHEMATIC DIAGRAM (2/2)



SC1A 16A
SC2A 17A
SC3A 18A
SE1A 25A
SE2A 26A
SE3A 27A
CASA 29A
WEA 2A
RASA 31A
SC1B 19A
SC2B 20A
SC3B 21A
SE1B 22A
SE2B 23A
SE3B 24A
CASB 28A
A7 37A
WEB 1A
RASB 30A
To M(MEMORY) (1/2)
PG103
GND RB0 RB1 RB2 RB3 RB4 RB5
To MAD(A/D CONV.) PG903
DTOE 3A
SC1 13A
SC2 14A
SC3 15A
SE1C 33A
SE2C 34A
SE3C 35A
To M(MEMORY) (1/2)
PG104
GND Y0 Y1 Y2 Y3 Y4 Y5
To MAD (A/D CONV.) PG904
ADR0 6A
ADR1 7A
ADR2 8A
ADR3 9A
ADR4 10A
ADR5 11A
ADR6 12A
CASC 32A
A7C 36A
WEC 4A
RASC 5A
To M(MEMORY) (1/2)
IC123 HM53461-ZP12 (4 BIT MEMORY)
IC122 HM53461-ZP12 (4 BIT MEMORY)
IC121 HM53461-ZP12 (4 BIT MEMORY)
IC120 HM53461-ZP12 (4 BIT MEMORY)
IC119 HM53461-ZP12 (4 BIT MEMORY)
IC118 HM53461-ZP12 (4 BIT MEMORY)
IC117 HM53461-ZP12 (4 BIT MEMORY)
IC116 HM53461-ZP12 (4 BIT MEMORY)
IC115 HM53461-ZP12 (4 BIT MEMORY)
C122 0.1
C121 0.1
C120 0.1
C119 0.1
C118 0.1
C117 0.1
IC132 HM53461-ZP12 (4 BIT MEMORY)
IC131 HM53461-ZP12 (4 BIT MEMORY)
IC130 HM53461-ZP12 (4 BIT MEMORY)
IC129 HM53461-ZP12 (4 BIT MEMORY)
IC128 HM53461-ZP12 (4 BIT MEMORY)
IC127 HM53461-ZP12 (4 BIT MEMORY)
IC126 HM53461-ZP12 (4 BIT MEMORY)
IC125 HM53461-ZP12 (4 BIT MEMORY)
IC124 HM53461-ZP12 (4 BIT MEMORY)
C129 0.1
C127 0.1
C126 0.1
C125 0.1
C124 0.1
C123 0.1
IC141 HM53461-ZP12 (4 BIT MEMORY)
R2 S̄Ē S3 SC SI R0 W̄Ē A6 A4 A7 A2 A0
R3 S2 GND S0 DT RI RA A5 Vcc A3 A1 CA
IC140 HM53461-ZP12 (4 BIT MEMORY)
IC139 HM53461-ZP12 (4 BIT MEMORY)
IC138 HM53461-ZP12 (4 BIT MEMORY)
IC137 HM53461-ZP12 (4 BIT MEMORY)
IC136 HM53461-ZP12 (4 BIT MEMORY)
IC135 HM53461-ZP12 (4 BIT MEMORY)
IC134 HM53461-ZP12 (4 BIT MEMORY)
IC133 HM53461-ZP12 (4 BIT MEMORY)
C135 0.1
C134 0.1
C133 0.1
C132 0.1
C131 0.1
C130 0.1
5V
M(MEMORY) P.C.B (2/2)
E D C B A
1 2 3 4 5 6 7 8

※ ONE VOLTAGE : POWER ON OR PRINT MODE
TWO VOLTAGES : POWER ON AND (PRINT) MODE

RC (REMOTE/CHARACTER) SCHEMATIC DIAGRAM


IC209
M5278L05
(5V REG)
5V REG
GND
C201 0.1
C202 330/10
R222 10K
R201 10K
D201 1SS270
C203 4.7/35
IC202
74HC4053AP
(DATE/TITLE SW)
IC201
M50452A-006P
(CHARACTER GEN.)
CT213
SSG VOLTAGE
RT201
CHARACTER POSITION
RT201 2.2K-B
R202 470
C204 47P
AC
DO 0
DO 1
DO 2
CO
BG
V.SYNC
H.SYNC
OSC 1
OSC 2
GND
Vcc
DATA
ADM
CLOCK
IC204
HD44007A
(SYNC GEN.)
NTSC=90° fsc(R-Y)
PAL=90°/270° fsc(R-Y)
OSC
N:260fH
P:282fH
PHASE COMPA
PHASE POT.
4fsc OSC
1/4
H.PLA
V.PLA
V.RESET
BUFFER
HI:NTSC
Lo:PAL
SYNC
R221 1M
R223 1K
XL202 4.4M
R211 100K
C225 0.01
CT213 90P
R213 10K
C212 0.001
D212 1SV68-01
R212 10K
C214 47P
C215 1/50
C216 0.001
R214 68K
R224 2.2K
R225 4.7K
D215 1SS270
D216 1SS270
D214 1SS270
IC208(3/4)
NJM74HC157D
IC206(2/3)
SN74HC367
R229 820
C222 0.001
C217 10/16
C218 0.1
IC208(4/4)
NJM74HC157D
SELECT
R227 2.2K
R228 1.5K
R226 4.7K
C226 0.001
R231 2.2K
R232 4.7K
IC205(4/4)
NJM74HC04D
PG205
OL SIGNAL
CG/OL
CG.DATA
CG.CLOCK
OL ON/OFF
SW5V(D)
CG.ADM
IR.PULSE
GND
A5V(D)
KEY 5
KEY 4
KEY 3
DIG 2
DIG 3
DIG 1
To S(SYSTEM) 4/4 PG605
PG232
EN.C.SYNC
7V
GND
4fsc
VDB
SE.HD
SE.VD
C.SYNC
VD
HD
SELECT
TEST POINT
To S(SYSTEM) 2/4 PG632
R204 1K
R203 1K
R205 1K
L201 100μ
C229 100/10
C205 0.1
R206 10K
D202 1SS270
C206 0.0047
IC208(2/4)
NJM74HC157D
R230 2.2K
C227 0.01
IC205(3/4)
NJM74HC04D
R216 4.7K
Q210 2SA844CD
R215 4.7K
Q211 2SC1740S
R218 10K
R217 3.3K
R219 10K
IC205(2/4)
NJM74HC04D
D213 1SS270
D211 1SS270
C228 0.1
IC206(3/3)
SN74HC367
IC208(1/4)
NJM74HC157D
STROBE
C221 0.1
C219 0.1
IC206(1/3)
SN74HC367
C223 0.1
IC205(1/4)
NJM74HC04D
L202 33μ
C207 100/10
C208 0.1
POWER
MEMORY
PRINT
MONITOR
DATE/TITLE
SET
ENTER
COLOUR
D203~D210
1SS270×8
Q201~Q208
DTA144ES×8
IC203
μPD7564CS107
(REMOTE CONTROL μP)
IR PULSE
RESET
CL 1
CL 2
VDD
R207 6.8K
C209 150P
C210 150P
XL201 500KHz
R208 10K
ZD201 HZS2-C3
R209 15K
R210 1.5K
C211 10/16
Q209 2SC1740S
RC(REMOTE/CHARACTER) P.C.B

※ONE VOLTAGE : POWER ON OR PRINT MODE
TWO VOLTAGES : POWER ON AND (PRINT) MODE

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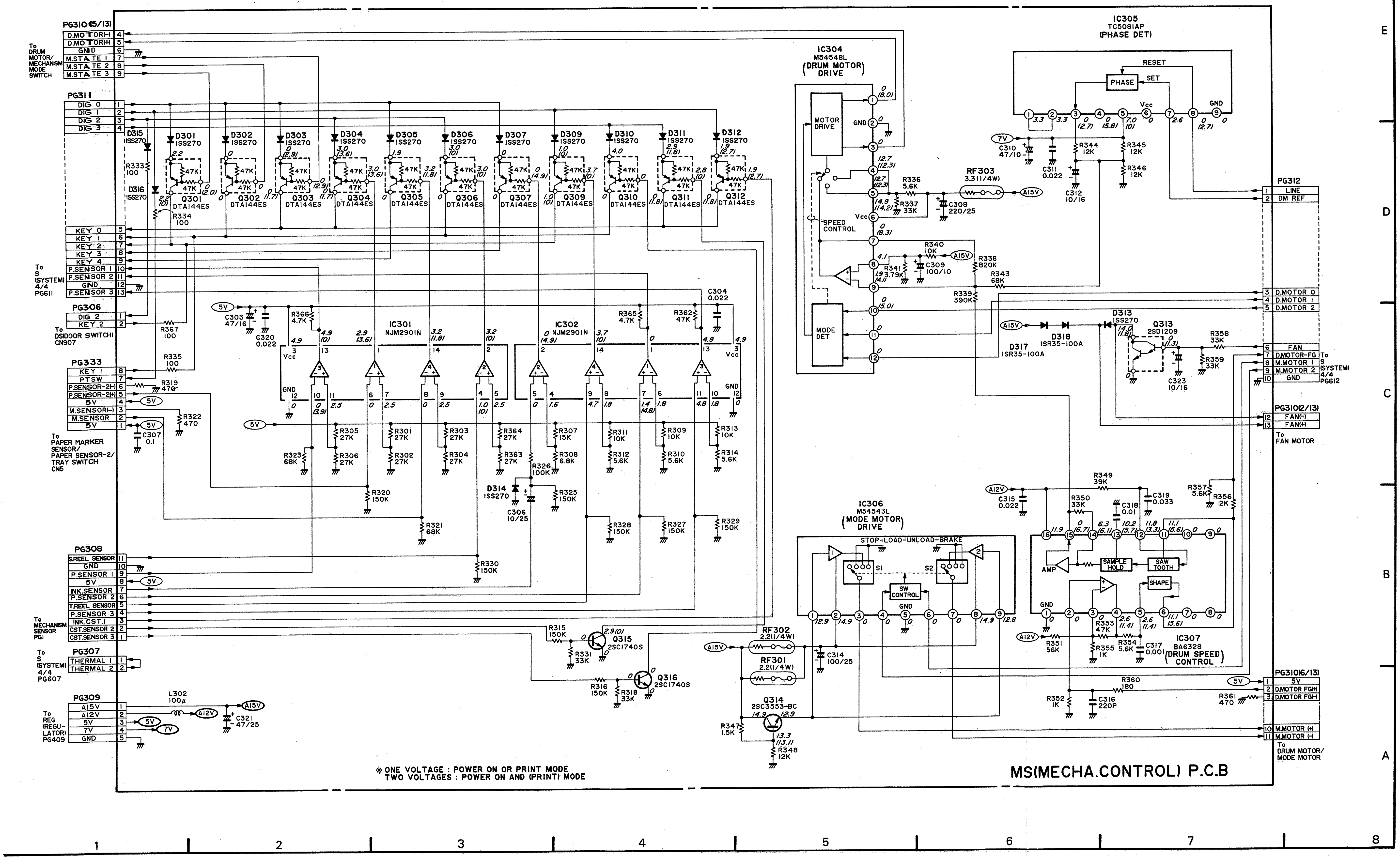
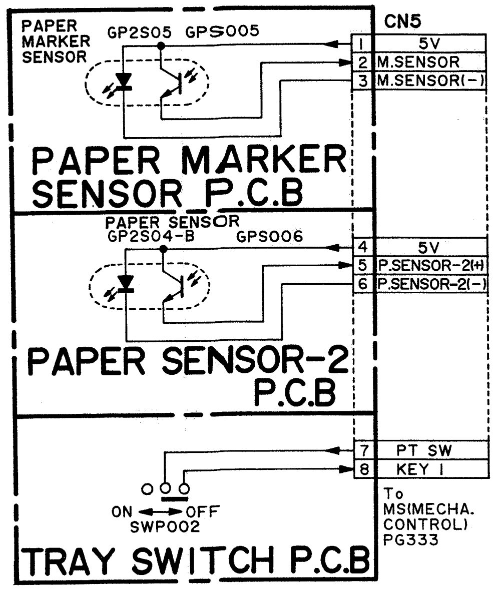
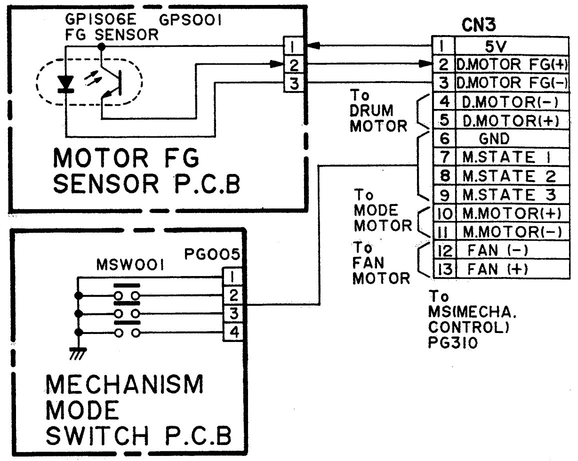
MS (MECHA. CONTROL) SCHEMATIC DIAGRAM


PG310(5/13)
D.MOTOR(-)
D.MOTOR(+)
GND
M.STATE 1
M.STATE 2
M.STATE 3
To DRUM MOTOR/ MECHANISM MODE SWITCH
PG311
DIG 0
DIG 1
DIG 2
DIG 3
KEY 0
KEY 1
KEY 2
KEY 3
KEY 4
P.SENSOR 1
P.SENSOR 2
GND
P.SENSOR 3
To S (SYSTEM) 4/4 PG611
PG306
DIG 2
KEY 2
To DS (DOOR SWITCH) CN907
PG333
KEY 1
PTSW
P.SENSOR-2(-)
P.SENSOR-2(+)
5V
M.SENSOR(-)
M.SENSOR
5V
To PAPER MARKER SENSOR/ PAPER SENSOR-2/ TRAY SWITCH CN5
PG308
S.REEL SENSOR
GND
P.SENSOR 1
5V
INK.SENSOR
P.SENSOR 2
T.REEL SENSOR
P.SENSOR 3
INK.CST.1
CST.SENSOR 2
CST.SENSOR 3
To MECHANISM SENSOR PG1
PG307
THERMAL 1
THERMAL 2
To S (SYSTEM) 4/4 PG607
PG309
A15V
A12V
5V
7V
GND
To REG (REGULATOR) PG409
L302 100μ
C321 47/25
D301 1SS270
D302 1SS270
D303 1SS270
D304 1SS270
D305 1SS270
D306 1SS270
D307 1SS270
D309 1SS270
D310 1SS270
D311 1SS270
D312 1SS270
D315 1SS270
D316 1SS270
Q301 DTA144ES
Q302 DTA144ES
Q303 DTA144ES
Q304 DTA144ES
Q305 DTA144ES
Q306 DTA144ES
Q307 DTA144ES
Q309 DTA144ES
Q310 DTA144ES
Q311 DTA144ES
Q312 DTA144ES
R333 100
R334 100
R367 100
R335 100
R319 470
R322 470
C307 0.1
IC301 NJM2901N
IC302 NJM2901N
C303 47/16
C320 0.022
C304 0.022
R366 4.7K
R365 4.7K
R362 47K
R305 27K
R306 27K
R301 27K
R302 27K
R303 27K
R304 27K
R364 27K
R363 27K
R307 15K
R308 6.8K
R311 10K
R312 5.6K
R309 10K
R310 5.6K
R313 10K
R314 5.6K
R323 68K
R320 150K
R321 68K
R326 100K
D314 1SS270
C306 10/25
R325 150K
R328 150K
R327 150K
R329 150K
R330 150K
R315 150K
R331 33K
Q315 2SC1740S
R316 150K
R318 33K
Q316 2SC1740S
IC304 M54548L (DRUM MOTOR DRIVE)
MOTOR DRIVE
SPEED CONTROL
MODE DET
R336 5.6K
R337 33K
C308 220/25
RF303 3.3(1/4W)
R340 10K
R341 3.79K
C309 100/10
R338 820K
R343 68K
R339 390K
IC305 TC5081AP (PHASE DET)
PHASE
RESET
SET
C310 47/10
C311 0.022
C312 10/16
R344 12K
R345 12K
R346 12K
PG312
LINE
DM REF
D.MOTOR 0
D.MOTOR 1
D.MOTOR 2
FAN
D.MOTOR-FG
M.MOTOR 1
M.MOTOR 2
GND
To S (SYSTEM) 4/4 PG612
D313 1SS270
Q313 2SD1209
D317 1SR35-100A
D318 1SR35-100A
R358 33K
R359 33K
C323 10/16
PG310(12/13)
FAN(-)
FAN(+)
To FAN MOTOR
IC306 M54543L (MODE MOTOR DRIVE)
STOP-LOAD-UNLOAD-BRAKE
S1
S2
SW CONTROL
RF302 2.2(1/4W)
RF301 2.2(1/4W)
C314 100/25
Q314 2SC3553-BC
R347 1.5K
R348 12K
R349 39K
C315 0.022
C319 0.033
R350 33K
C318 0.01
R357 5.6K
R356 12K
IC307 BA6328 (DRUM SPEED CONTROL)
AMP
SAMPLE HOLD
SAW TOOTH
SHAPE
R351 56K
R353 47K
R355 1K
R354 5.6K
C317 0.001
R360 180
R352 1K
C316 220P
R361 470
PG310(6/13)
5V
D.MOTOR FG(+)
D.MOTOR FG(-)
M.MOTOR (+)
M.MOTOR (-)
To DRUM MOTOR/ MODE MOTOR
※ ONE VOLTAGE : POWER ON OR PRINT MODE
TWO VOLTAGES : POWER ON AND (PRINT) MODE
MS(MECHA.CONTROL) P.C.B
1
2
3
4
5
6
7
8
A
B
C
D
E

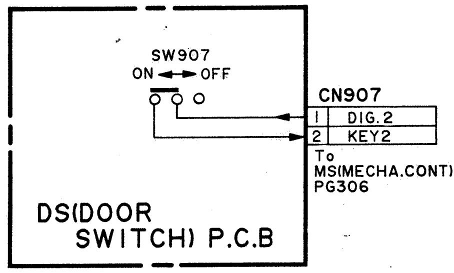
PAPER MARKER SENSOR/ PAPER SENSOR-2/ TRAY SWITCH SCHEMATIC DIAGRAM


PAPER MARKER SENSOR
GP2S05 GPS005
CN5
5V
M.SENSOR
M.SENSOR(-)
PAPER MARKER SENSOR P.C.B
PAPER SENSOR GP2S04-B GPS006
5V
P.SENSOR-2(+)
P.SENSOR-2(-)
PAPER SENSOR-2 P.C.B
PT SW
KEY 1
ON ◄─► OFF
SWP002
To MS(MECHA. CONTROL) PG333
TRAY SWITCH P.C.B

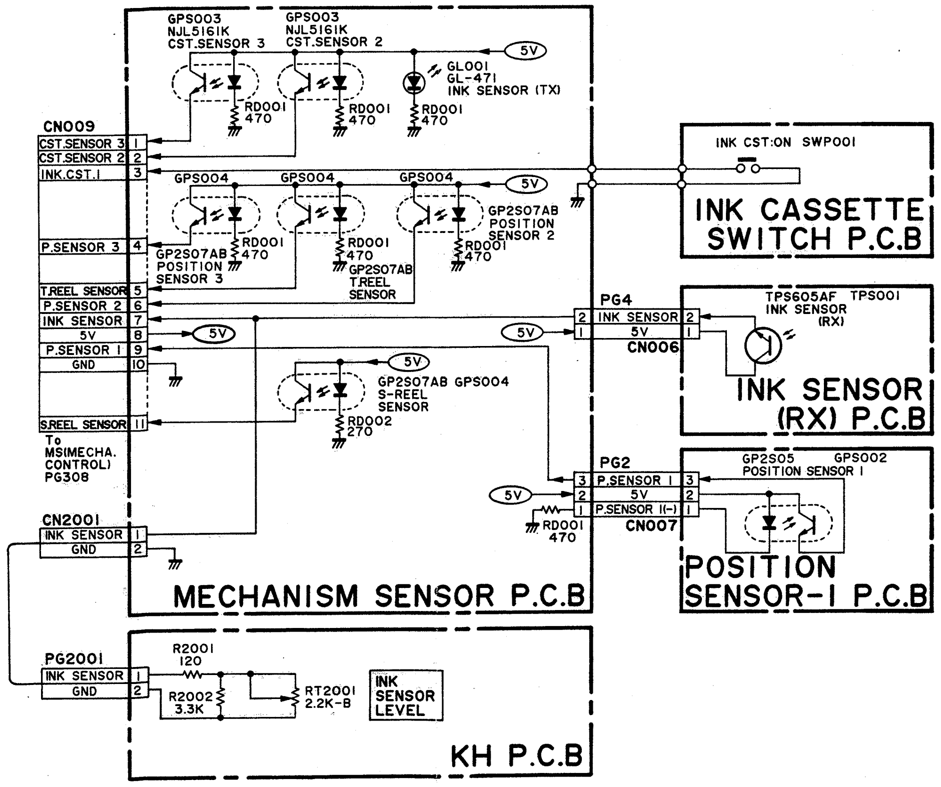
MOTOR FG SENSOR SCHEMATIC DIAGRAM


GP1S06E GPS001
FG SENSOR
MOTOR FG SENSOR P.C.B
CN3
5V
D.MOTOR FG(+)
D.MOTOR FG(-)
D.MOTOR(-)
D.MOTOR(+)
GND
M.STATE 1
M.STATE 2
M.STATE 3
M.MOTOR(+)
M.MOTOR(-)
FAN (-)
FAN (+)
To DRUM MOTOR
To MODE MOTOR
To FAN MOTOR
To MS(MECHA. CONTROL) PG310
MSW001
PG005
MECHANISM MODE SWITCH P.C.B

DS (DOOR SWITCH) SCHEMATIC DIAGRAM


SW907
ON ◄─► OFF
CN907
DIG.2
KEY2
To MS(MECHA.CONT) PG306
DS(DOOR SWITCH) P.C.B

MECHANISM SENSOR/ INK CASSETTE SWITCH/ INK SENSOR (RX) POSITON SENSOR-1/KH SCHEMATIC DIAGRAM


GPS003 NJL5161K CST.SENSOR 3
GPS003 NJL5161K CST.SENSOR 2
GL001 GL-471 INK SENSOR (TX)
RD001 470
CN009
CST.SENSOR 3
CST.SENSOR 2
INK.CST.1
GPS004
GP2S07AB POSITION SENSOR 2
GP2S07AB POSITION SENSOR 3
GP2S07AB T.REEL SENSOR
P.SENSOR 3
T.REEL SENSOR
P.SENSOR 2
INK SENSOR
5V
P.SENSOR 1
GND
S.REEL SENSOR
GP2S07AB GPS004 S-REEL SENSOR
RD002 270
To MS(MECHA. CONTROL) PG308
INK CST:ON SWP001
INK CASSETTE SWITCH P.C.B
PG4
INK SENSOR
CN006
TPS605AF TPS001 INK SENSOR (RX)
INK SENSOR (RX) P.C.B
PG2
P.SENSOR 1
P.SENSOR 1(-)
CN007
GP2S05 GPS002 POSITION SENSOR 1
POSITION SENSOR-1 P.C.B
CN2001
INK SENSOR
GND
MECHANISM SENSOR P.C.B
PG2001
R2001 120
R2002 3.3K
RT2001 2.2K-B
INK SENSOR LEVEL
KH P.C.B

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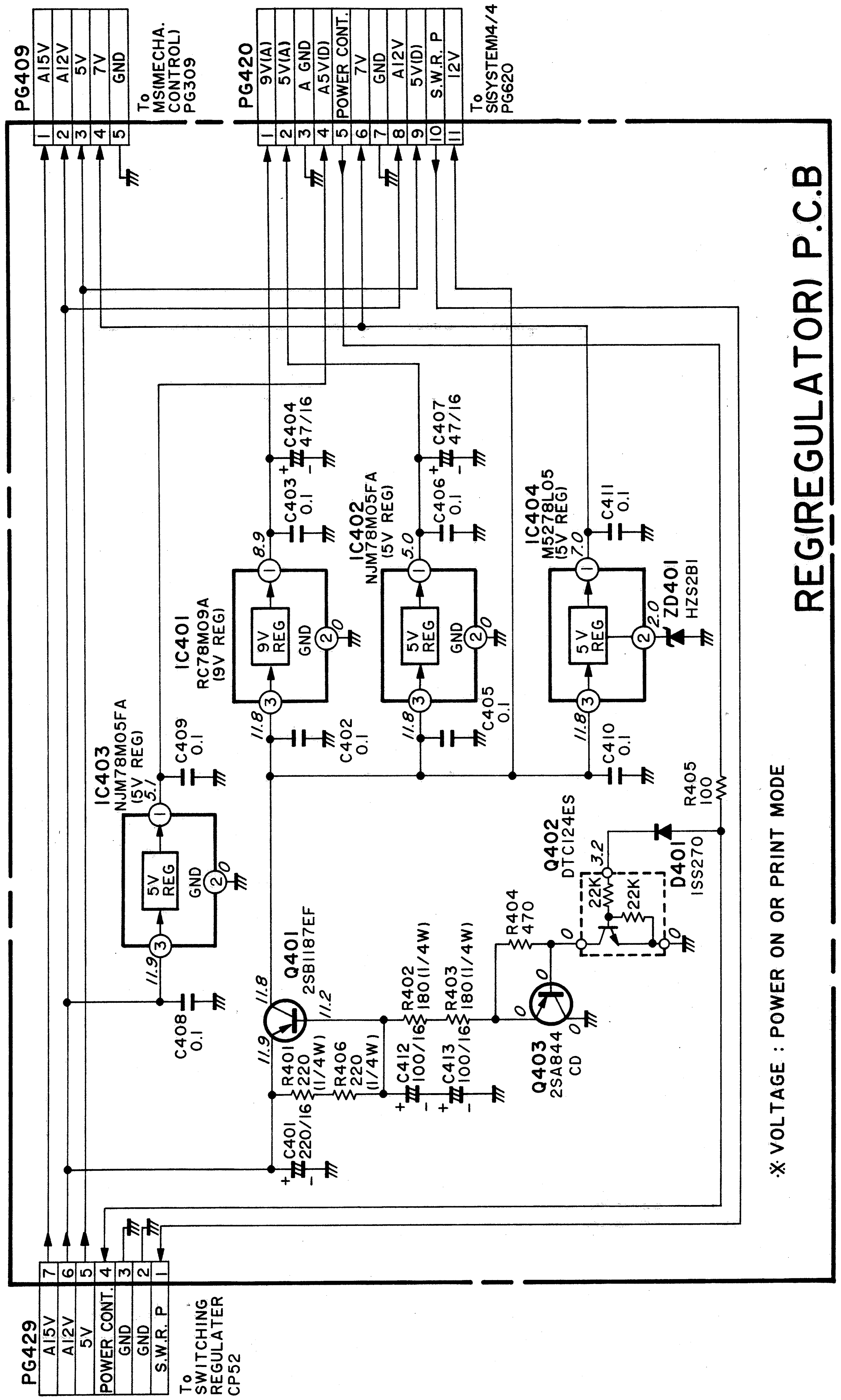
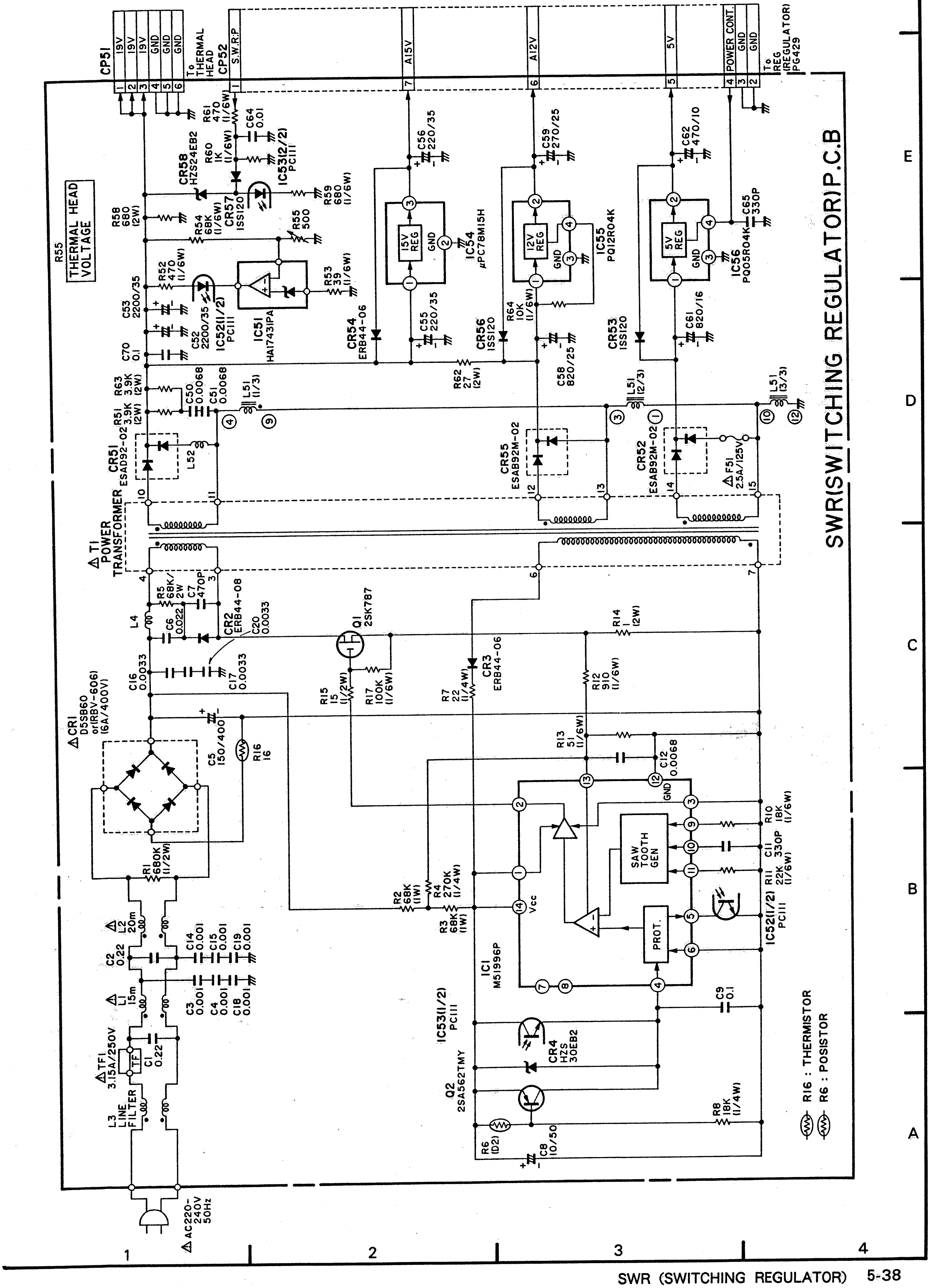
REG (REGULATOR) SCHEMATIC DIAGRAM

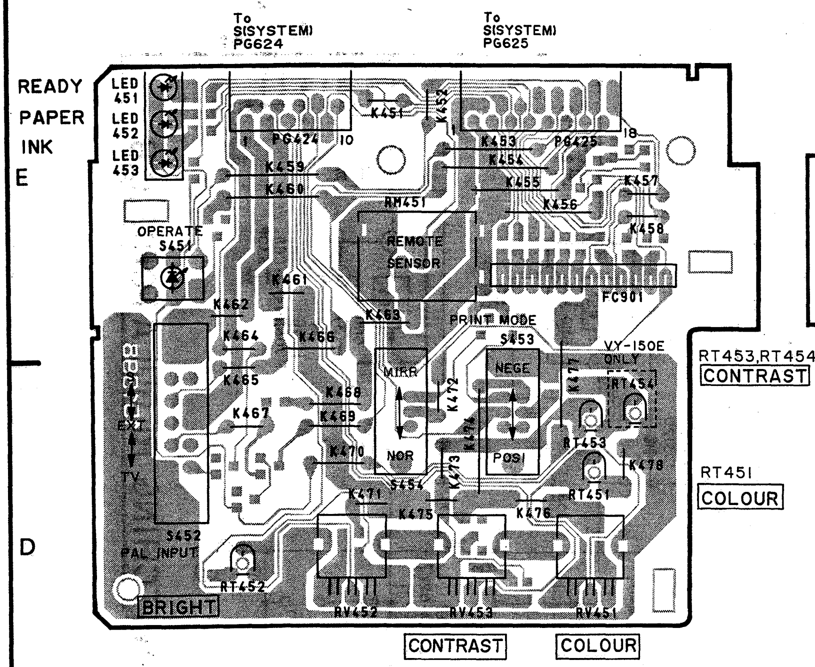

PG409
A15V
A12V
5V
7V
GND
To MS(MECHA. CONTROL) PG309
PG420
9V(A)
5V(A)
A GND
A5V(D)
POWER CONT.
7V
GND
A12V
5V(D)
S.W.R. P
12V
To S(SYSTEM)4/4 PG620
REG(REGULATOR) P.C.B
C404 47/16
C403 0.1
IC401 RC78M09A (9V REG)
9V REG
C402 0.1
C407 47/16
C406 0.1
IC402 NJM78M05FA (5V REG)
5V REG
C405 0.1
C411 0.1
IC404 M5278L05 (5V REG)
ZD401 HZS2B1
C410 0.1
R405 100
IC403 NJM78M05FA (5V REG)
C409 0.1
C408 0.1
Q401 2SB1187EF
R401 220 (1/4W)
R406 220 (1/4W)
C401 220/16
R402 180(1/4W)
R403 180(1/4W)
C412 100/16
C413 100/16
Q402 DTC124ES
22K
D401 1SS270
R404 470
Q403 2SA844 CD
8.9
5.0
7.0
2.0
11.8
11.9
11.2
5.1
3.2
※ VOLTAGE : POWER ON OR PRINT MODE
PG429
A15V
A12V
5V
POWER CONT.
GND
GND
S.W.R. P
To SWITCHING REGULATER CP52

SWR (SWITCHING REGULATOR) SCHEMATIC DIAGRAM

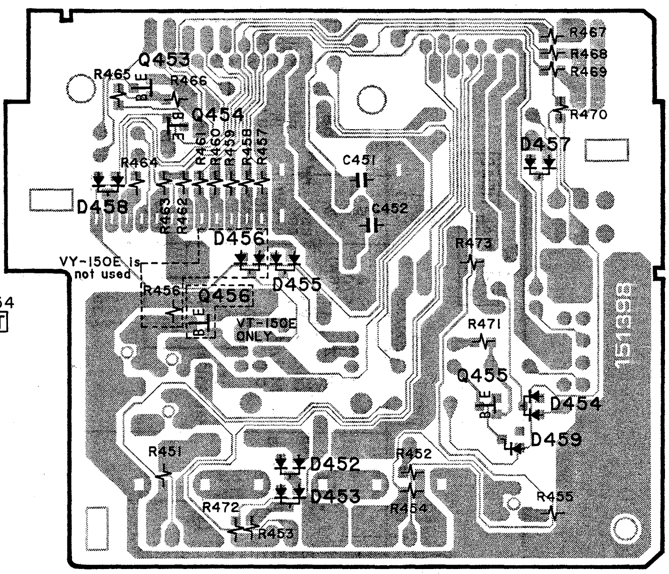


CP51
19V
19V
19V
GND
GND
GND
To THERMAL HEAD
CP52
S.W.R:P
A15V
A12V
5V
POWER CONT.
GND
GND
To REG (REGULATOR) PG429
R61 470 (1/6W)
C64 0.01
CR58 HZS24EB2
R60 1K (1/6W)
IC53(2/2) PC111
R59 680 (1/6W)
CR57 1SS120
R58 680 (2W)
R54 68K (1/6W)
R55 500
R55 THERMAL HEAD VOLTAGE
R52 470 (1/6W)
R53 39 (1/6W)
C53 2200/35
C52 2200/35
IC52(1/2) PC111
IC51 HA17431PA
C70 0.1
R63 3.9K (2W)
R51 3.9K (2W)
C50 0.0068
C51 0.0068
L51 (1/3)
CR51 ESAD92-02
L52
C56 220/35
C55 220/35
15V REG
GND
IC54 μPC78M15H
CR54 ERB44-06
R62 27 (2W)
C59 270/25
12V REG
IC55 PQ12R04K
R64 10K (1/6W)
CR56 1SS120
C58 820/25
L51 (2/3)
CR55 ESAB92M-02
C62 470/10
5V REG
IC56 PQ05R04K
C65 330P
CR53 1SS120
C61 820/16
L51 (3/3)
CR52 ESAB92M-02
F51 2.5A/125V
SWR(SWITCHING REGULATOR)P.C.B
T1 POWER TRANSFORMER
R5 68K/2W
C7 470P
L4
C6 0.022
CR2 ERB44-08
C20 0.0033
Q1 2SK787
R14 1 (2W)
C16 0.0033
C17 0.0033
R15 15 (1/2W)
R17 100K (1/6W)
R7 22 (1/4W)
CR3 ERB44-06
R12 910 (1/6W)
CR1 D5SB60 or(RBV-606) (6A/400V)
C5 150/400
R16 16
R13 51 (1/6W)
C12 0.0068
GND
R10 18K (1/6W)
SAW TOOTH GEN
C11 330P
R11 22K (1/6W)
R1 680K (1/2W)
R2 68K (1W)
R4 270K (1/4W)
R3 68K (1W)
Vcc
PROT.
IC52(1/2) PC111
L2 20m
C2 0.22
C14 0.001
C15 0.001
C19 0.001
IC1 M51996P
L1 15m
C3 0.001
C4 0.001
C18 0.001
C9 0.1
IC53(1/2) PC111
CR4 HZS 30EB2
TF1 3.15A/250V
C1 0.22
TF
L3 LINE FILTER
Q2 2SA562TMY
R8 18K (1/4W)
R6 (D2)
C8 10/50
R16 : THERMISTOR
R6 : POSISTOR
AC220-240V 50Hz
1
2
3
4
A
B
C
D
E

F (FRONT) CIRCUIT BOARD DIAGRAM

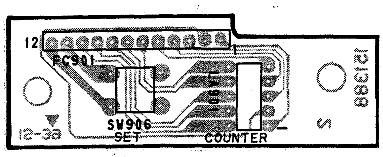

To S(SYSTEM) PG624
To S(SYSTEM) PG625
READY
PAPER
INK
LED 451
LED 452
LED 453
PG424
PG425
K451
K452
K453
K454
K455
K456
K457
K458
K459
K460
RM451
REMOTE SENSOR
OPERATE S451
FC901
K461
K462
K463
K464
K465
K466
K467
K468
K469
K470
K471
K472
K473
K474
K475
K476
K477
K478
PRINT MODE S453
MIRR
NOR
NEGE
POSI
VY-150E ONLY
RT454
RT453
RT451
RT452
S454
S452 PAL INPUT
EXT
TV
BRIGHT
RV452
RV453
RV451
RT453,RT454
CONTRAST
RT451
COLOUR
CONTRAST
COLOUR

F(FRONT) P.C.B


Q453
R465
R466
Q454
R467
R468
R469
R470
R464
R461
R460
R459
R458
R457
C451
C452
D457
D458
R463
R462
D456
VY-150E is not used
R456
Q456
D455
VT-150E ONLY
R473
R471
Q455
D454
D459
R451
D452
D453
R452
R472
R453
R454
R455
151398

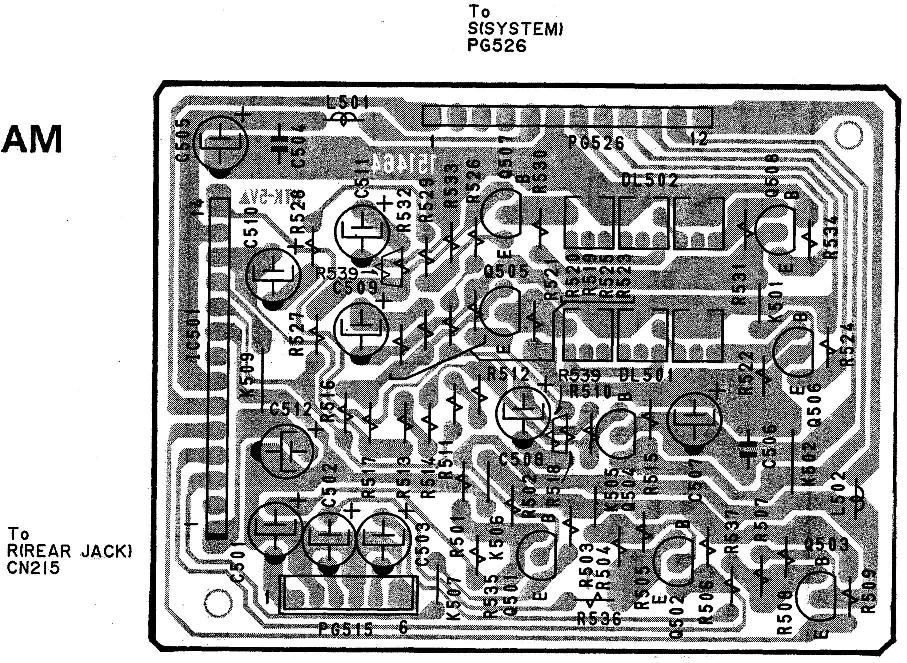
F(FRONT) P.C.B
-LEADLESS COMPONENT DIAGRAM-

FS (COUNTER) CIRCUIT BOARD DIAGRAM


12
FC901
SW906
SET
COUNTER
12-38
151398
S

FS(COUNTER) P.C.B

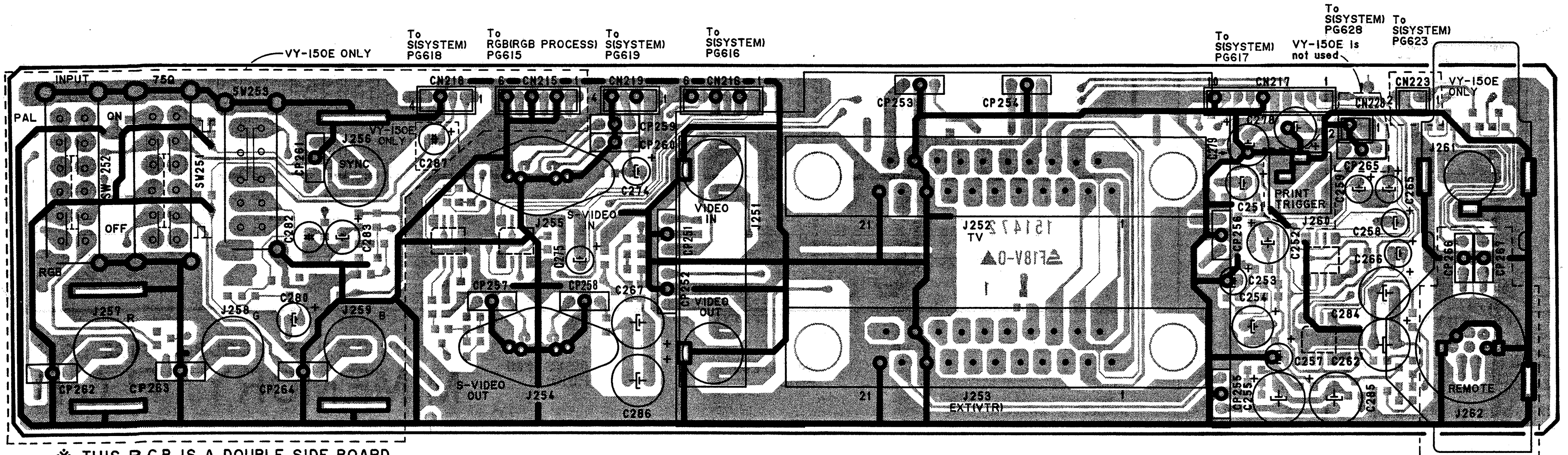
RGB (RGB PROCESS) CIRCUIT BOARD DIAGRAM (VY – 150E ONLY)


To S(SYSTEM) PG526
To R(REAR JACK) CN215
L501
PG526
12
C505
C504
C511
C510
R528
R532
R529
R533
R526
Q507
R530
DL502
Q508
R534
R539
C509
Q505
R527
R521
R520
R519
R525
R523
R531
K501
IC501
K509
C512
R516
R512
R539
R510
DL501
R522
Q506
R524
C506
K502
L502
C508
R517
R513
R514
R511
R518
R502
R505
R504
R515
C507
C502
C503
C501
R501
K506
Q501
R503
R504
R505
Q502
R537
R507
Q503
R509
R508
R506
R535
R536
K507
PG515
6
1
14
151464

RGB(RGB PROCESS) P.C.B

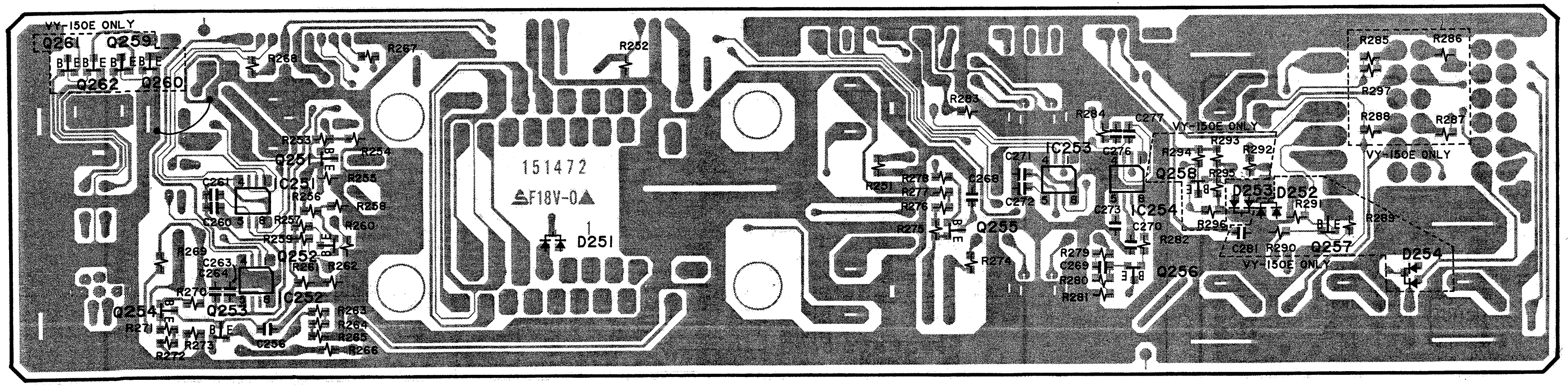
R (REAR JACK) CIRCUIT BOARD DIAGRAM

MAD (A/D CONV.) CIRCUIT BOARD DIAGRAM


VY-150E ONLY
To S(SYSTEM) PG618
To RGB(RGB PROCESS) PG615
To S(SYSTEM) PG619
To S(SYSTEM) PG616
To S(SYSTEM) PG617
To S(SYSTEM) PG628
VY-150E is not used
To S(SYSTEM) PG623
CN218
CN215
CN219
CN216
CN217
CN222
CN223
VY-150E ONLY
INPUT
75Ω
PAL
ON
OFF
RGB
SW253
SW252
SW251
J256
SYNC
J257
J258
J259
CP262
CP263
CP264
J255
S-VIDEO
S-VIDEO OUT
J254
VIDEO IN
J251
VIDEO OUT
CP253
CP254
J252 TV
151472
F18V-0
J253 EXT(VTR)
PRINT TRIGGER
J261
REMOTE
J262
C286
VY-150E ONLY

※ THIS P.C.B IS A DOUBLE SIDE BOARD.

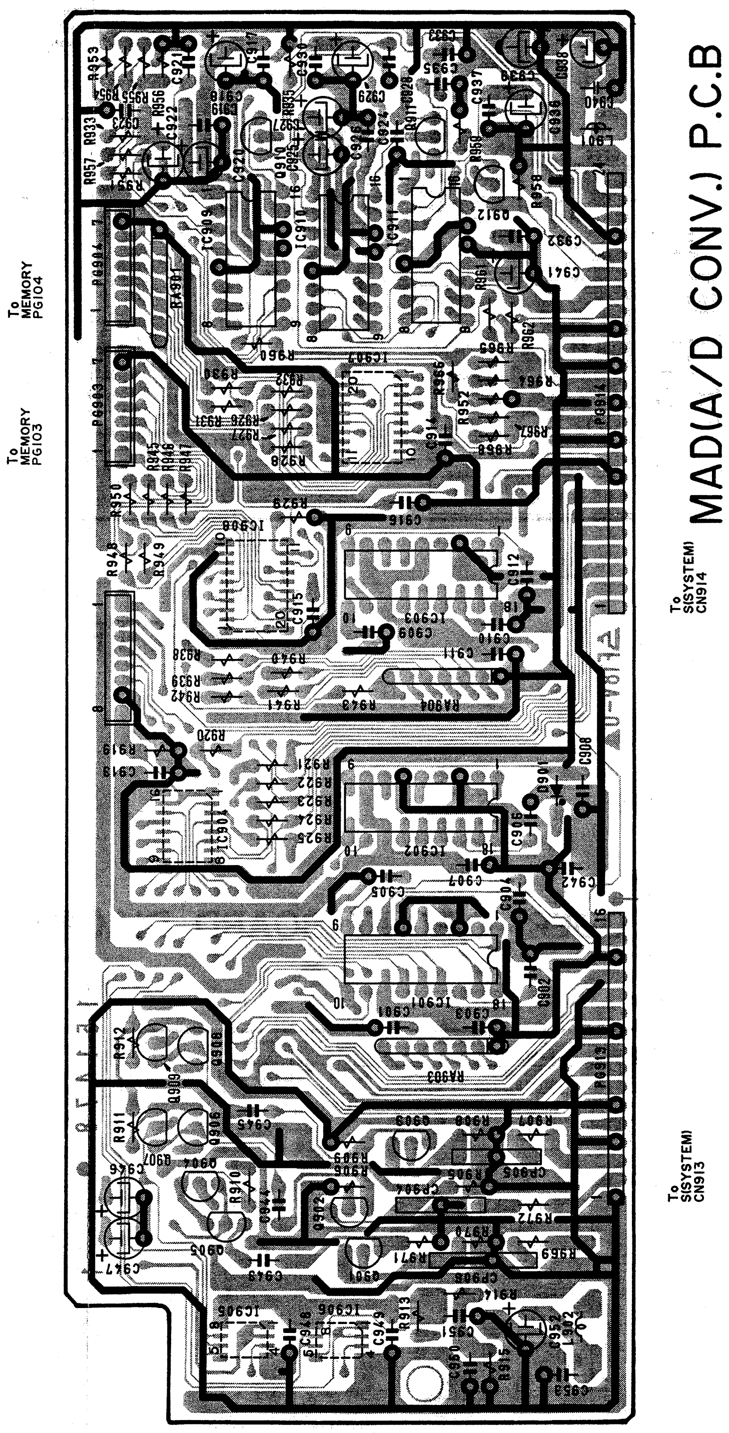
R(REAR JACK) P.C.B


VY-150E ONLY
Q261
Q259
Q262
Q260
Q251
Q252
Q253
Q254
Q255
Q256
Q257
Q258
IC251
IC252
IC253
IC254
151472
F18V-0
D251
D252
D253
D254
VY-150E ONLY
VY-150E ONLY
VY-150E ONLY

※THIS P.C.B IS A DOUBLE SIDE BOARD.

R(REAR JACK) P.C.B

-LEADLESS COMPONENT DIAGRAM -


To MEMORY PG104
To MEMORY PG103
To S(SYSTEM) CN914
To S(SYSTEM) CN913
IC901
IC902
IC903
IC904
IC905
IC906
IC907
IC908
IC909
IC910
IC911
IC912
IC913
IC914
IC915

MAD(A/D CONV.) P.C.B

E

D

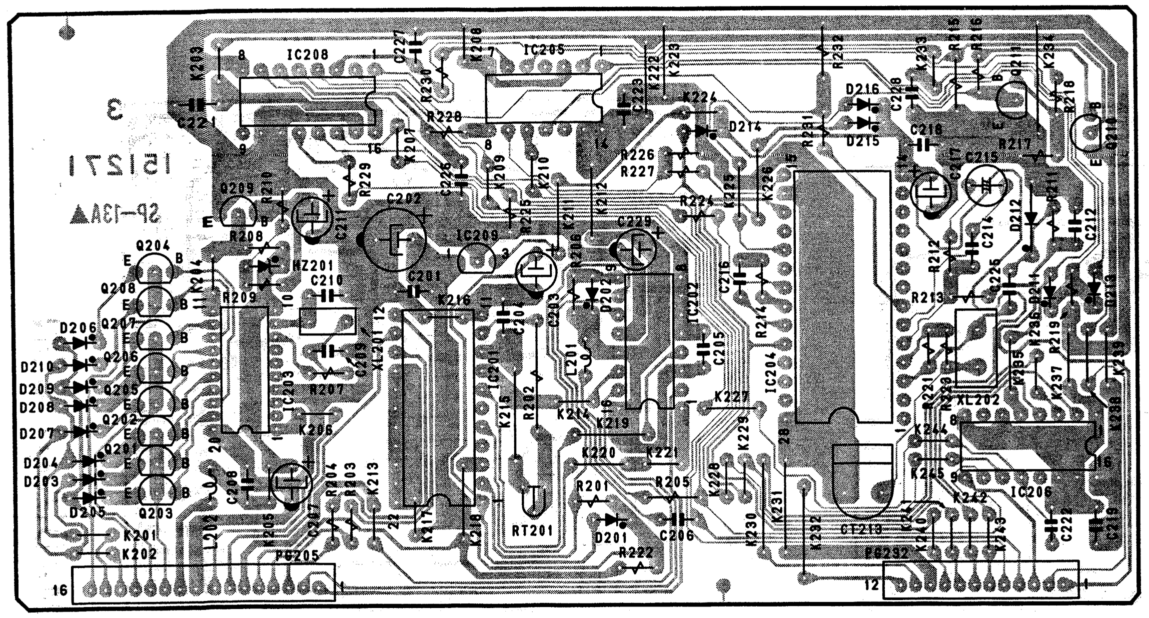
C

B

A

1 2 3 4 5 6 7 8

RC (REMOTE/CHARACTER) CIRCUIT BOARD DIAGRAM



To
S(SYSTEM)
PG605

RT201
CHARACTER
POSITION

CT213
SSG
VOLTAGE

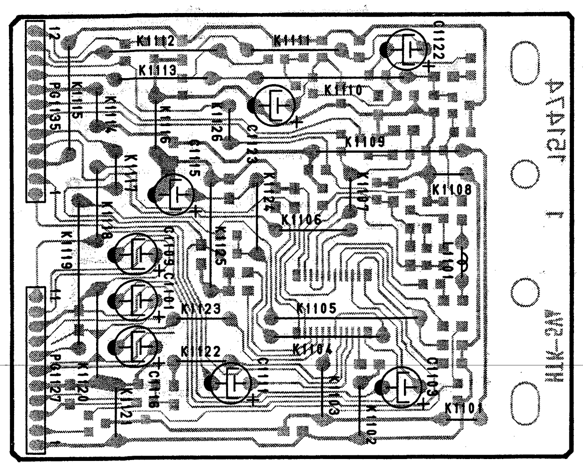
To
S(SYSTEM)
PG632

RC(REMOTE/CHARACTER) P.C.B

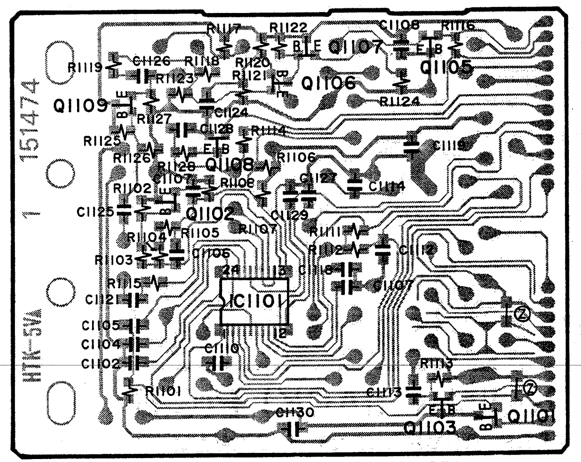
EN (ENCODER) CIRCUIT BOARD DIAGRAM

To
S(SYSTEM)
PG635

To
S(SYSTEM)
PG627



EN(ENCODER) P.C.B



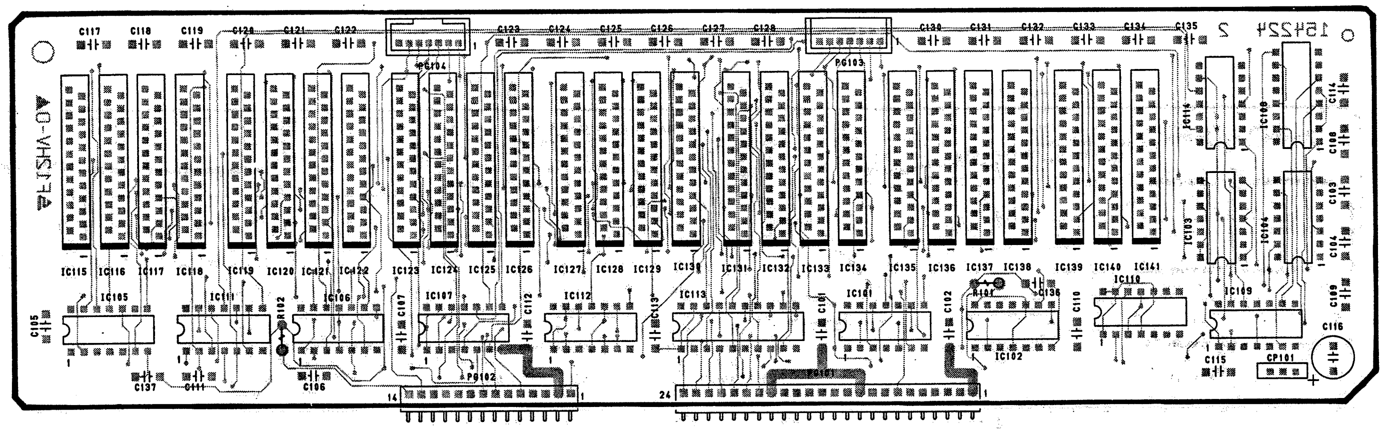
NOTE : MARK"②" IS LEADLESS(CHIP) JUMPER.

EN(ENCODER) P.C.B
-LEADLESS COMPONENT DIAGRAM-

M (MEMORY) CIRCUIT BOARD DIAGRAM

To
MAD(A/D CONV.)
PG904

To
MAD(A/D CONV.)
PG903



To
S(SYSTEM)
PG102

To
S(SYSTEM)
PG101

※ THIS P.C.B IS A DOUBLE SIDE BOARD.

M(MEMORY) P.C.B

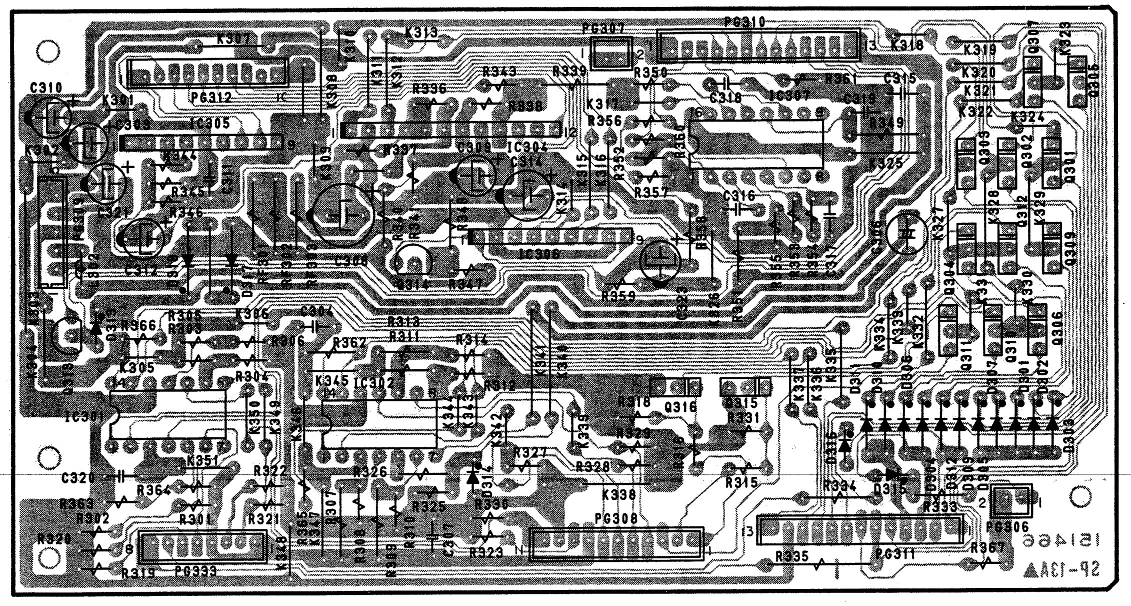
MS (MECHA. CONTROL) CIRCUIT BOARD DIAGRAM

To
S(SYSTEM)
PG612

To
S(SYSTEM)
PG607

To
DRUM MOTOR/
MODE MOTOR/
MECHA.MODE
SWITCH

To
REG
(REGULATOR)
PG409



To
DS(DOOR
SWITCH)
CN907

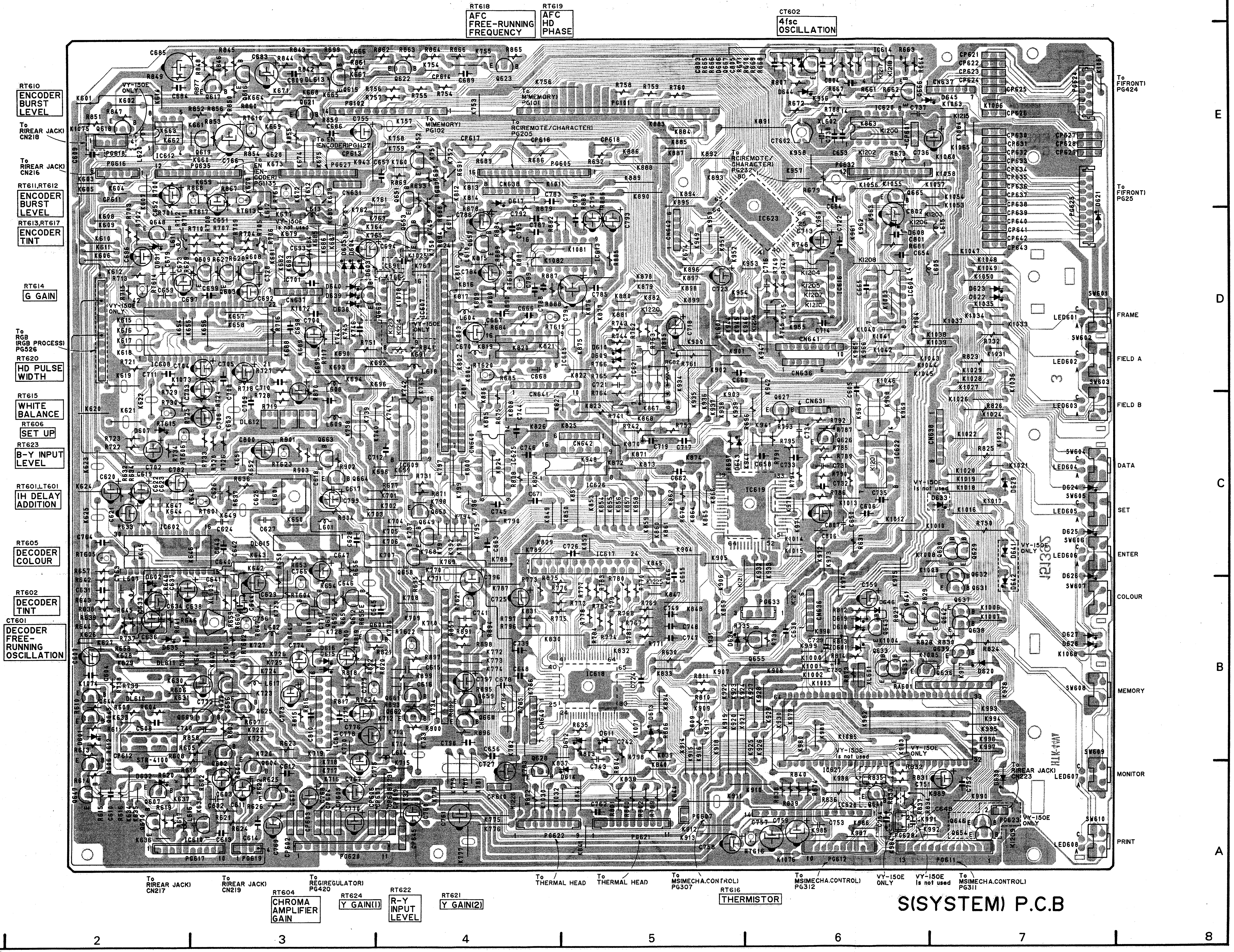
To
P.MARKER
SENSOR/
P.SENSOR-2/
TRAY SWITCH
CN5

To
MECHA.
SENSOR
PG1

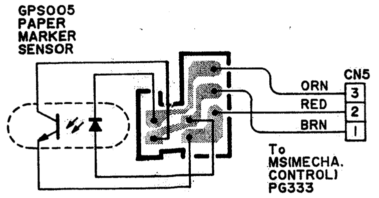
To
S(SYSTEM)
PG611

MS(MECHA.CONTROL) P.C.B

S (SYSTEM) CIRCUIT BOARD DIAGRAM

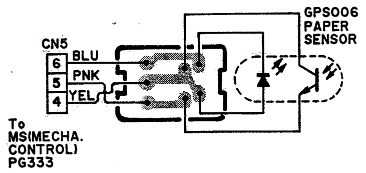

RT618 AFC FREE-RUNNING FREQUENCY
RT619 AFC HD PHASE
CT602 4fsc OSCILLATION
RT610 ENCODER BURST LEVEL
To R(REAR JACK) CN218
To R(REAR JACK) CN216
RT611,RT612 ENCODER BURST LEVEL
RT613,RT617 ENCODER TINT
RT614 G GAIN
To RGB (RGB PROCESS) PG526
RT620 HD PULSE WIDTH
RT615 WHITE BALANCE
RT606 SET UP
RT623 B-Y INPUT LEVEL
RT601,LT601 1H DELAY ADDITION
RT605 DECODER COLOUR
RT602 DECODER TINT
CT601 DECODER FREE-RUNNING OSCILLATION
To R(REAR JACK) CN217
To R(REAR JACK) CN219
To REG(REGULATOR) PG420
RT604 CHROMA AMPLIFIER GAIN
RT624 Y GAIN(1)
RT622 R-Y INPUT LEVEL
RT621 Y GAIN(2)
To THERMAL HEAD
To THERMAL HEAD
To M(MECHA.CONTROL) PG307
RT616 THERMISTOR
To M(MECHA.CONTROL) PG312
VY-150E ONLY
VY-150E is not used
To M(MECHA.CONTROL) PG311
To F(FRONT) PG424
To F(FRONT) PG25
FRAME
FIELD A
FIELD B
DATA
SET
ENTER
COLOUR
MEMORY
MONITOR
PRINT
S(SYSTEM) P.C.B
E
D
C
B
A
1
2
3
4
5
6
7
8

PAPER MARKER SENSOR CIRCUIT BOARD DIAGRAM


GPS005 PAPER MARKER SENSOR
ORN
RED
BRN
CN5
3
2
1
To MS(MECHA. CONTROL) PG333

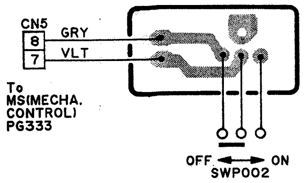
PAPER MARKER SENSOR P.C.B

PAPER SENSOR－2 CIRCUIT BOARD DIAGRAM


GPS006 PAPER SENSOR
CN5
6 BLU
5 PNK
4 YEL
To MS(MECHA. CONTROL) PG333

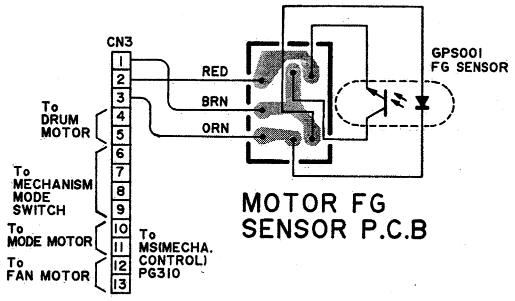
PAPER SENSOR-2 P.C.B

TRAY SWITCH CIRCUIT BOARD DIAGRAM


CN5
8 GRY
7 VLT
To MS(MECHA. CONTROL) PG333
OFF
ON
SWP002

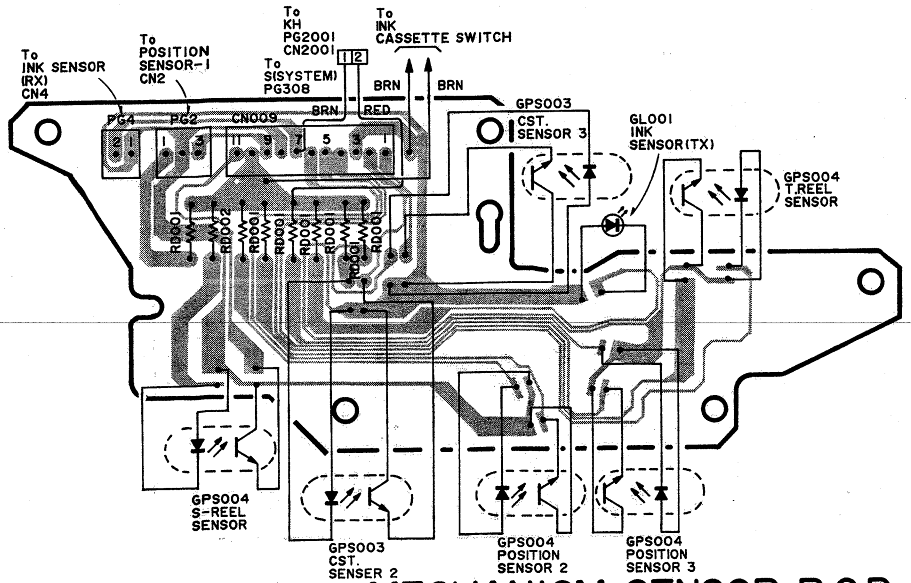
TRAY SWITCH P.C.B

MOTOR FG SENSOR CIRCUIT BOARD DIAGRAM


CN3
1
2
3
4
5
6
7
8
9
10
11
12
13
RED
BRN
ORN
GPS001 FG SENSOR
To DRUM MOTOR
To MECHANISM MODE SWITCH
To MODE MOTOR
To FAN MOTOR
To MS(MECHA. CONTROL) PG310

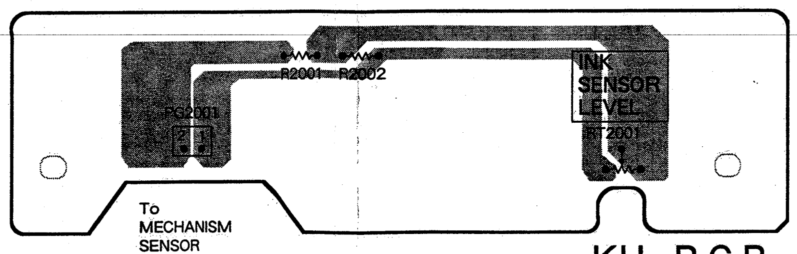
MOTOR FG SENSOR P.C.B

MECHANISM SENSOR CIRCUIT BOARD DIAGRAM


To INK SENSOR (RX) CN4
To POSITION SENSOR-1 CN2
To S(SYSTEM) PG308
To KH PG2001 CN2001
1 2
To INK CASSETTE SWITCH
BRN
BRN
BRN
RED
PG4
PG2
CN009
GPS003 CST. SENSOR 3
GL001 INK SENSOR(TX)
GPS004 T.REEL SENSOR
RD001
RD002
GPS004 S-REEL SENSOR
GPS003 CST. SENSER 2
GPS004 POSITION SENSOR 2
GPS004 POSITION SENSOR 3

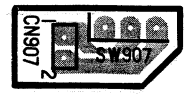
MECHANISM SENSOR P.C.B

KH CIRCUIT BOARD DIAGRAM


R2001
R2002
INK SENSOR LEVEL
PG2001
ST2001
To MECHANISM SENSOR CN2001

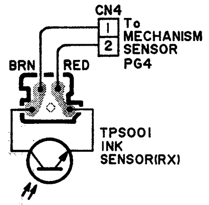
KH P.C.B

DS (DOOR SWITCH) CIRCUIT BOARD DIAGRAM


CN907
SW907

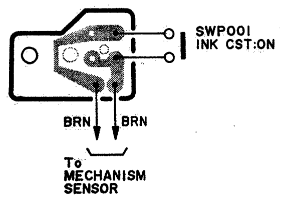
DS(DOOR SWITCH) P.C.B

INK SENSOR (RX) CIRCUIT BOARD DIAGRAM


CN4
1
2
To MECHANISM SENSOR PG4
BRN
RED
TPS001 INK SENSOR(RX)

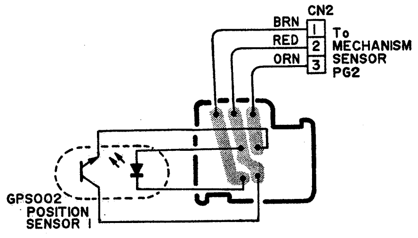
INK SENSOR (RX) P.C.B

INK CASSETTE SWITCH CIRCUIT BOARD DIAGRAM


SWP001 INK CST:ON
BRN
BRN
To MECHANISM SENSOR

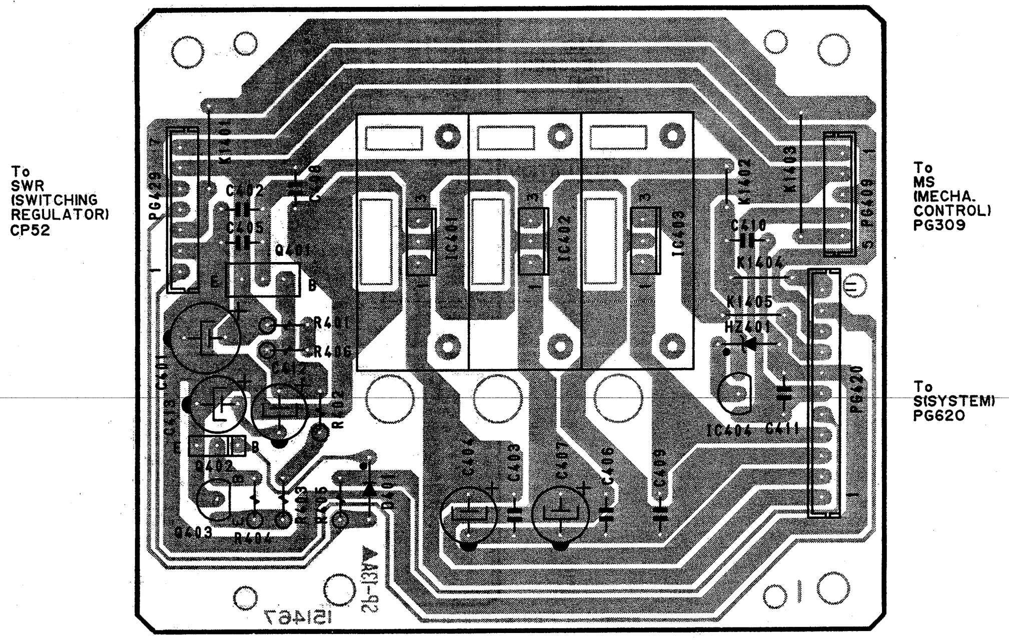
INK CASSETTE SWITCH P.C.B.

POSITION SENSOR－1 CIRCUIT BOARD DIAGRAM


CN2
BRN 1
RED 2
ORN 3
To MECHANISM SENSOR PG2
GPS002 POSITION SENSOR 1

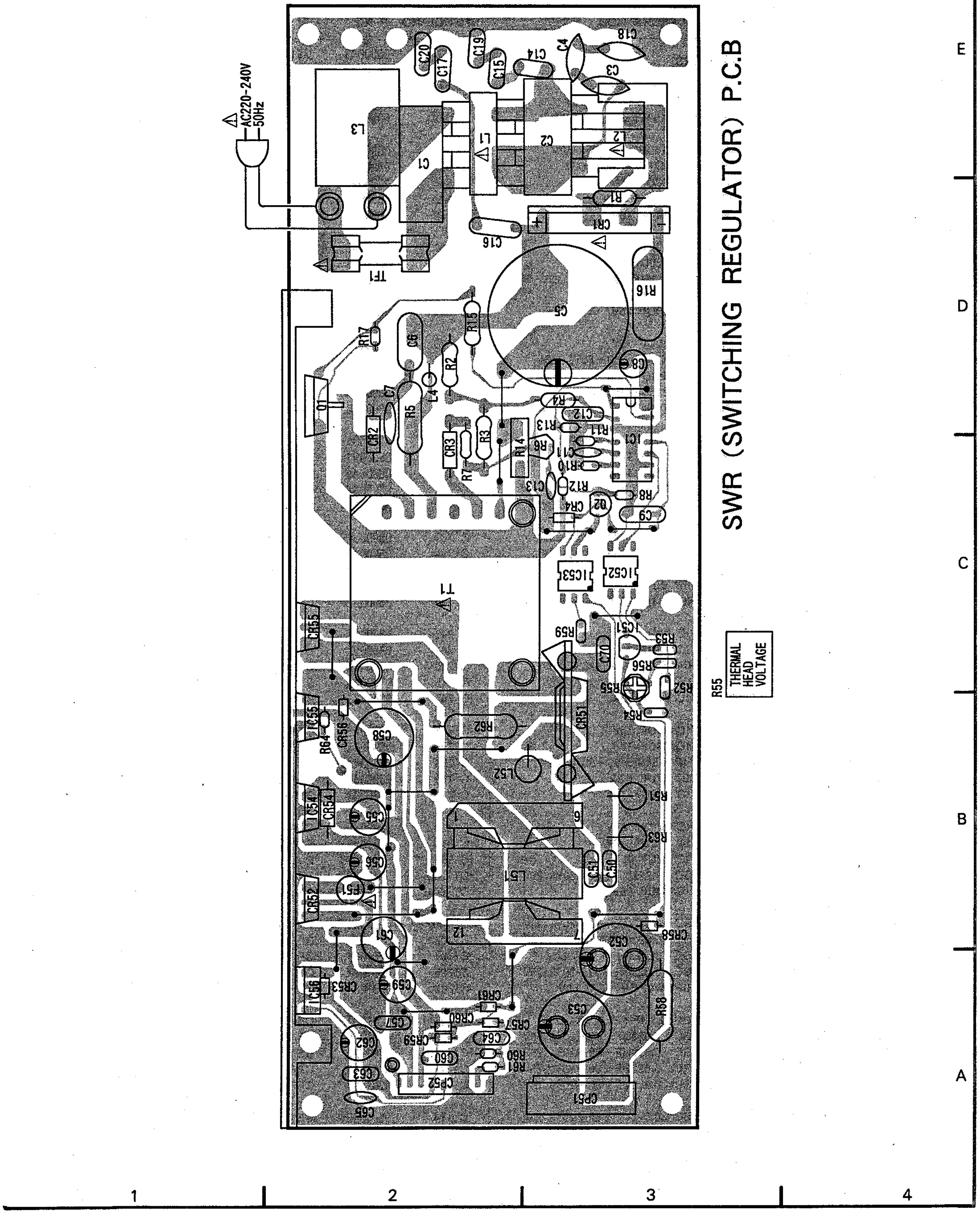
POSITION SENSOR-1 P.C.B

REG (REGULATOR) CIRCUIT BOARD DIAGRAM


To SWR (SWITCHING REGULATOR) CP52
To MS (MECHA. CONTROL) PG309
To S(SYSTEM) PG620
PG429
K1401
C402
C405
C408
Q401
R401
R406
C401
C412
C413
Q402
Q403
R402
R403
R404
R405
D401
IC401
IC402
IC403
IC404
C404
C403
C407
C406
C409
C410
C411
K1402
K1403
K1404
K1405
HZ401
PG409
PG420
151467

REG(REGULATOR) P.C.B

SWR (SWITCHING REGULATOR) CIRCUIT BOARD DIAGRAM


SWR (SWITCHING REGULATOR) P.C.B
AC220-240V
50Hz
L3
C1
L1
C2
L2
C3
C4
C14
C15
C17
C19
C20
C18
R1
CR1
C16
TF1
C5
R16
R17
C6
R15
R2
L4
C7
R5
Q1
CR2
CR3
R3
R7
R14
R6
R13
R4
C12
R11
IC1
C11
R10
C13
R12
CR4
Q2
R8
C8
C9
IC53
IC52
T1
R59
IC51
R53
C70
R56
R55
R52
R54
R55
THERMAL HEAD VOLTAGE
CR51
R62
L52
CR55
IC55
R64
CR56
C58
IC54
CR54
C55
C56
F51
CR52
R51
R63
C51
C50
L51
T2
1
6
7
C61
C52
CR58
IC56
CR53
C59
CR61
C57
CR60
CR57
C53
R68
CR59
C64
C62
C60
R60
R61
C63
CP52
CP51
C65
E
D
C
B
A
1
2
3
4

REPLACEMENT PARTS LIST
ELECTRICAL PARTS LIST

SYMBOL-NO	P-NO	DESCRIPTION
		CAPACITORS
C 116	0256713	ELECTROLYTIC 100UF 10V
C 204	0208402	CERAMIC DISC 47PF+−5% 50V
C 209	0890076	CERAMIC DISC 150PF+−10% 50V
C 210	0890076	CERAMIC DISC 150PF+−10% 50V
C 214	0208402	CERAMIC DISC 47PF+−5% 50V
C 251	0256169	ELECTROLYTIC 33UF 10V
C 252	0256159	ELECTROLYTIC 100UF 6.3V
C 253	0256155	ELECTROLYTIC 10UF 16V
C 254	0256708	ELECTROLYTIC 47UF 10V
C 255	0256754	ELECTROLYTIC 220UF 10V
C 256	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C 257	0256155	ELECTROLYTIC 10UF 16V
C 258	0256155	ELECTROLYTIC 10UF 16V
C 259	0256155	ELECTROLYTIC 10UF 16V
C 260	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C 261	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C 262	0256754	ELECTROLYTIC 220UF 10V
C 263	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C 264	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C 265	0256155	ELECTROLYTIC 10UF 16V
C 266	0256155	ELECTROLYTIC 10UF 16V
C 267	0256754	ELECTROLYTIC 220UF 10V
C 268	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C 269	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C 270	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C 271	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C 272	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C 273	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C 274	0256155	ELECTROLYTIC 10UF 16V
C 275	0256155	ELECTROLYTIC 10UF 16V
C 276	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C 277	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C 278	0256158	ELECTROLYTIC 47UF 16V
C 279	0256158	ELECTROLYTIC 47UF 16V
C 280	0256169	ELECTROLYTIC 33UF 10V
C 281	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C 283	0256160	ELECTROLYTIC 47UF 6.3V
C 284	0256754	ELECTROLYTIC 220UF 10V
C 285	0256754	ELECTROLYTIC 220UF 10V
C 286	0256754	ELECTROLYTIC 220UF 10V
C 287	0256834	ELECTROLYTIC 10UF 16V
C 304	0890044	CERAMIC DISC 0.022UF+80−20% 25V
C 306	0207458	ELECTROLYTIC 10UF 25V
C 311	0890044	CERAMIC DISC 0.022UF+80−20% 25V
C 315	0890044	CERAMIC DISC 0.022UF+80−20% 25V
C 316	0890078	CERAMIC DISC 220PF+−10% 50V
C 320	0890044	CERAMIC DISC 0.022UF+80−20% 25V
C 451	0201039	CERAMIC CHIP 470PF+−5% 50V
C 452	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C 601	0890044	CERAMIC DISC 0.022UF+80−20% 25V
C 602	0890044	CERAMIC DISC 0.022UF+80−20% 25V
C 615	0890044	CERAMIC DISC 0.022UF+80−20% 25V
C 616	0890044	CERAMIC DISC 0.022UF+80−20% 25V
C 617	0890044	CERAMIC DISC 0.022UF+80−20% 25V
C 618	0890044	CERAMIC DISC 0.022UF+80−20% 25V
C 622	0890045	CERAMIC DISC 0.047UF+80−20% 50V
C 623	0890045	CERAMIC DISC 0.047UF+80−20% 50V
C 624	0890035	CERAMIC DISC 1000PF 50V
C 625	0890043	CERAMIC DISC 0.01UF+−20% 16V
C 626	0890043	CERAMIC DISC 0.01UF+−20% 16V
C 627	0890071	CERAMIC DISC 56PF+−5% 50V
C 628	0890069	CERAMIC DISC 47PF+−5% 50V
C 633	0890043	CERAMIC DISC 0.01UF+−20% 16V
C 635	0890043	CERAMIC DISC 0.01UF+−20% 16V
C 637	0890043	CERAMIC DISC 0.01UF+−20% 16V
C 640	02080343	CERAMIC 15PF+−5% 50V
C 641	0890043	CERAMIC DISC 0.01UF+−20% 16V
C 642	0890035	CERAMIC DISC 1000PF 50V
C 646	0890043	CERAMIC DISC 0.01UF+−20% 16V
C 647	0890043	CERAMIC DISC 0.01UF+−20% 16V
C 648	0890081	CERAMIC DISC 330PF+−10% 50V
C 659	0890046	CERAMIC DISC 0.1UF+80−20% 50V
C 664	0890081	CERAMIC DISC 330PF+−10% 50V
C 673	0890046	CERAMIC DISC 0.1UF+80−20% 50V
C 674	0890063	CERAMIC DISC 15PF+−5% 50V
C 679	0890046	CERAMIC DISC 0.1UF+80−20% 50V
C 699	0890064	CERAMIC DISC 18PF+−5% 50V
C 715	0890035	CERAMIC DISC 1000PF 50V
C 716	0890031	CERAMIC DISC 470PF+−10% 50V
C 721	0890081	CERAMIC DISC 330PF+−10% 50V
C 728	0890044	CERAMIC DISC 0.022UF+80−20% 25V
C 731	0890044	CERAMIC DISC 0.022UF+80−20% 25V
C 732	0890061	CERAMIC DISC 10PF+−0.5% 50V
C 733	0890061	CERAMIC DISC 10PF+−0.5% 50V
C 734	0890044	CERAMIC DISC 0.022UF+80−20% 25V
C 737	0890044	CERAMIC DISC 0.022UF+80−20% 25V
C 738	0890064	CERAMIC DISC 18PF+−5% 50V
C 740	0890022	CERAMIC DISC 100PF+−10% 50V
C 741	0890017	CERAMIC DISC 47PF+−5% 50V
C 742	0890013	CERAMIC DISC 22PF+−5% 50V
C 743	0890013	CERAMIC DISC 22PF+−5% 50V
C 745	0890073	CERAMIC DISC 82PF+−5% 50V
C 747	0890073	CERAMIC DISC 82PF+−5% 50V
C 748	0890073	CERAMIC DISC 82PF+−5% 50V
C 749	0890073	CERAMIC DISC 82PF+−5% 50V
C 753	0890044	CERAMIC DISC 0.022UF+80−20% 25V
C 763	0890043	CERAMIC DISC 0.01UF+−20% 16V
C 779	0890044	CERAMIC DISC 0.022UF+80−20% 25V
C 810	0890065	CERAMIC DISC 22PF+−5% 50V
C 916	0890069	CERAMIC DISC 47PF+−5% 50V
C 938	02561633	ELECTROLYTIC 100UF 16V
CT 213	5058563	TRIMMER
CT 601	5058492	TRIMMER
CT 602	5058491	TRIMMER 50PF
C1102	0201072	CERAMIC CHIP 0.047UF+80−20% 25V
C1104	0201007	CERAMIC CHIP 0.01UF+−20% 50V
C1105	0201007	CERAMIC CHIP 0.01UF+−20% 50V
C1106	02010863	CERAMIC CHIP 8PF+−0.5PF
C1107	0201091	CERAMIC CHIP 18PF+−5% 50V
C1108	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C1110	0201072	CERAMIC CHIP 0.047UF+80−20% 25V
C1112	0201007	CERAMIC CHIP 0.01UF+−20% 50V
C1113	0201007	CERAMIC CHIP 0.01UF+−20% 50V
C1114	0201007	CERAMIC CHIP 0.01UF+−20% 50V
C1117	0201072	CERAMIC CHIP 0.047UF+80−20% 25V
C1118	0201007	CERAMIC CHIP 0.01UF+−20% 50V
C1119	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C1121	0201089	CERAMIC CHIP 12PF+−5% 50V

SYMBOL-NO	P-NO	DESCRIPTION
C1124	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C1125	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C1126	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C1127	02010883	CERAMIC CHIP 10PF+−0.5PF
C1128	0201097	CERAMIC CHIP 100PF+−5% 50V
C1129	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
C1130	0201069	CERAMIC CHIP 0.1UF+80−20% 25V
		RESISTORS
R 251	0103893	CHIP RESISTOR 75 OHM+−5% 1/8W
R 252	0103893	CHIP RESISTOR 75 OHM+−5% 1/8W
R 253	0103855	CHIP RESISTOR 10KOHM+−5% 0.1W
R 254	0103857	CHIP RESISTOR 15KOHM+−5% 0.1W
R 255	0103843	CHIP RESISTOR 1KOHM+−5% 0.1W
R 256	0103837	CHIP RESISTOR 330 OHM+−5% 0.1W
R 257	0103845	CHIP RESISTOR 1.5KOHM+−5% 0.1W
R 258	0103845	CHIP RESISTOR 1.5KOHM+−5% 0.1W
R 259	0103860	CHIP RESISTOR 27KOHM+−5% 0.1W
R 260	0103858	CHIP RESISTOR 18KOHM+−5% 0.1W
R 261	0103848	CHIP RESISTOR 2.7KOHM+−5% 0.1W
R 262	0103851	CHIP RESISTOR 4.7KOHM+−5% 0.1W
R 263	0103832	CHIP RESISTOR 120OHM+−5% 0.1W
R 264	0103832	CHIP RESISTOR 120OHM+−5% 0.1W
R 265	0103832	CHIP RESISTOR 120OHM+−5% 0.1W
R 266	0103893	CHIP RESISTOR 75 OHM+−5% 1/8W
R 267	0103835	CHIP RESISTOR 220 OHM+−5% 0.1W
R 268	0103851	CHIP RESISTOR 4.7KOHM+−5% 0.1W
R 269	0103893	CHIP RESISTOR 75 OHM+−5% 1/8W
R 270	0103835	CHIP RESISTOR 220 OHM+−5% 0.1W
R 271	0103832	CHIP RESISTOR 120OHM+−5% 0.1W
R 272	0103832	CHIP RESISTOR 120OHM+−5% 0.1W
R 273	0103832	CHIP RESISTOR 120OHM+−5% 0.1W
R 274	0103893	CHIP RESISTOR 75 OHM+−5% 1/8W
R 275	0103832	CHIP RESISTOR 120OHM+−5% 0.1W
R 276	0103832	CHIP RESISTOR 120OHM+−5% 0.1W
R 277	0103832	CHIP RESISTOR 120OHM+−5% 0.1W
R 278	0103835	CHIP RESISTOR 220 OHM+−5% 0.1W
R 279	0103893	CHIP RESISTOR 75 OHM+−5% 1/8W
R 280	0103836	CHIP RESISTOR 270 OHM+−5% 0.1W
R 281	0103836	CHIP RESISTOR 270 OHM+−5% 0.1W
R 282	0103835	CHIP RESISTOR 220 OHM+−5% 0.1W
R 283	0103893	CHIP RESISTOR 75 OHM+−5% 1/8W
R 284	0103893	CHIP RESISTOR 75 OHM+−5% 1/8W
R 285	0103833	CHIP RESISTOR 150 OHM+−5% 0.1W
R 286	0104267	CHIP RESITOR 75 OHM+−1% 1/10W
R 287	0104267	CHIP RESITOR 75 OHM+−1% 1/10W
R 288	0104267	CHIP RESITOR 75 OHM+−1% 1/10W
R 289	0103857	CHIP RESISTOR 15KOHM+−5% 0.1W
R 290	0103859	CHIP RESISTOR 22KOHM+−5% 0.1W
R 291	0103851	CHIP RESISTOR 4.7KOHM+−5% 0.1W
R 292	0103835	CHIP RESISTOR 220 OHM+−5% 0.1W
R 293	0103861	CHIP RESISTOR 33KOHM+−5% 0.1W
R 294	0103846	CHIP RESISTOR 1.8KOHM+−5% 0.1W
R 295	0103859	CHIP RESISTOR 22KOHM+−5% 0.1W
R 296	0103846	CHIP RESISTOR 1.8KOHM+−5% 0.1W
R 297	0103833	CHIP RESISTOR 150 OHM+−5% 0.1W
R 451	0103852	CHIP RESISTOR 5.6KOHM+−5% 0.1W
R 452	0103857	CHIP RESISTOR 15KOHM+−5% 0.1W
R 453	0103848	CHIP RESISTOR 2.7KOHM+−5% 0.1W
R 454	0103843	CHIP RESISTOR 1KOHM+−5% 0.1W
R 455	0103853	CHIP RESISTOR 6.8KOHM+−5% 0.1W
R 457	0103834	CHIP RESISTOR 180OHM+−5% 0.1W
R 458	0103834	CHIP RESISTOR 180OHM+−5% 0.1W
R 459	0103834	CHIP RESISTOR 180OHM+−5% 0.1W
R 460	0103834	CHIP RESISTOR 180OHM+−5% 0.1W

SYMBOL-NO	P-NO	DESCRIPTION
R 461	0103834	CHIP RESISTOR 180OHM+−5% 0.1W
R 462	0103834	CHIP RESISTOR 180OHM+−5% 0.1W
R 463	0103834	CHIP RESISTOR 180OHM+−5% 0.1W
R 464	0103834	CHIP RESISTOR 180OHM+−5% 0.1W
R 465	0103839	CHIP RESISTOR 470OHM+−5% 0.1W
R 466	0103846	CHIP RESISTOR 1.8KOHM+−5% 0.1W
R 467	0103832	CHIP RESISTOR 120OHM+−5% 0.1W
R 468	0103835	CHIP RESISTOR 220 OHM+−5% 0.1W
R 469	0103835	CHIP RESISTOR 220 OHM+−5% 0.1W
R 470	0103835	CHIP RESISTOR 220 OHM+−5% 0.1W
R 471	0103851	CHIP RESISTOR 4.7KOHM+−5% 0.1W
R 472	0103849	CHIP RESISTOR 3.3KOHM+−5% 0.1W
R 473	0103851	CHIP RESISTOR 4.7KOHM+−5% 0.1W
RA 601	5068321	RESISTOR BLOCK
RA 901	5060147	RESISTOR BLOCK
RA 903	5060149	RESISTOR BLOCK
RA 904	5060149	RESISTOR BLOCK
RT 201	5007459	SEMI VARIABLE 2.2K OHM
RT 451	5007449	SEMI VARIABLE 47KOHM
RT 452	5007445	SEMI VARIABLE 2.2KOHM
RT 453	5007448	SEMI VARIABLE 22KOHM
RT 454	5007448	SEMI VARIABLE 22KOHM
RT 601	5007444	SEMI VARIABLE 1KOHM
RT 602	5007449	SEMI VARIABLE 47KOHM
RT 604	5007443	SEMI VARIABLE 470OHM
RT 605	5007446	SEMI VARIABLE 4.7KOHM
RT 606	5007444	SEMI VARIABLE 1KOHM
RT 610	5007443	SEMI VARIABLE 470OHM
RT 611	5007445	SEMI VARIABLE 2.2KOHM
RT 612	5007445	SEMI VARIABLE 2.2KOHM
RT 613	5007447	SEMI VARIABLE 10KOHM
RT 614	5007444	SEMI VARIABLE 1KOHM
RT 615	5007446	SEMI VARIABLE 4.7KOHM
RT 616	5007444	SEMI VARIABLE 1KOHM
RT 617	5007447	SEMI VARIABLE 10KOHM
RT 618	5007446	SEMI VARIABLE 4.7KOHM
RT 619	5007446	SEMI VARIABLE 4.7KOHM
RT 620	5007444	SEMI VARIABLE 1KOHM
RT 621	5007444	SEMI VARIABLE 1KOHM
RT 622	5007445	SEMI VARIABLE 2.2KOHM
RT 623	5007445	SEMI VARIABLE 2.2KOHM
RT 624	5007443	SEMI VARIABLE 470OHM
RV 451	5001678	VARIABLE 5KOHM
RV 452	5001678	VARIABLE 5KOHM
RV 453	5001678	VARIABLE 5KOHM
R1101	0103843	CHIP RESISTOR 1KOHM+−5% 0.1W
R1102	0104113	CHIP RESISTOR 2.2KOHM 1/10W
R1103	0104113	CHIP RESISTOR 2.2KOHM 1/10W
R1104	0103849	CHIP RESISTOR 3.3KOHM+−5% 0.1W
R1105	0103837	CHIP RESISTOR 330 OHM+−5% 0.1W
R1106	0103845	CHIP RESISTOR 1.5KOHM+−5% 0.1W
R1107	0103856	CHIP RESISTOR 12KOHM+−5% 0.1W
R1108	0103851	CHIP RESISTOR 4.7KOHM+−5% 0.1W
R1111	0103859	CHIP RESISTOR 22KOHM+−5% 0.1W
R1112	0103847	CHIP RESISTOR 2.2KOHM+−5% 0.1W
R1113	0103843	CHIP RESISTOR 1KOHM+−5% 0.1W
R1114	0103851	CHIP RESISTOR 4.7KOHM+−5% 0.1W
R1115	0103842	CHIP RESISTOR 820 OHM+−5% 0.1W
R1116	0103843	CHIP RESISTOR 1KOHM+−5% 0.1W
R1117	0103848	CHIP RESISTOR 2.7KOHM+−5% 0.1W
R1118	0104273	CHIP RESISTOR 1KOHM+−1% 1/10W
R1119	0104273	CHIP RESISTOR 1KOHM+−1% 1/10W
R1120	0103856	CHIP RESISTOR 12KOHM+−5% 0.1W
R1121	0103851	CHIP RESISTOR 4.7KOHM+−5% 0.1W
R1122	0104273	CHIP RESISTOR 1KOHM+−1% 1/10W

SYMBOL-NO	P-NO	DESCRIPTION
R1123	0103843	CHIP RESISTOR 1KOHM+−5% 0.1W
R1124	0103849	CHIP RESISTOR 3.3KOHM+−5% 0.1W
R1125	0103855	CHIP RESISTOR 10KOHM+−5% 0.1W
R1126	0103855	CHIP RESISTOR 10KOHM+−5% 0.1W
R1127	0103846	CHIP RESISTOR 1.8KOHM+−5% 0.1W
R1128	0103851	CHIP RESISTOR 4.7KOHM+−5% 0.1W
		SEMI-CONDUCTORS
D 201	5339141	DIODE 1SS270
D 202	5339141	DIODE 1SS270
D 203	5339141	DIODE 1SS270
D 204	5339141	DIODE 1SS270
D 205	5339141	DIODE 1SS270
D 206	5339141	DIODE 1SS270
D 207	5339141	DIODE 1SS270
D 208	5339141	DIODE 1SS270
D 209	5339141	DIODE 1SS270
D 210	5339141	DIODE 1SS270
D 211	5339141	DIODE 1SS270
D 212	5331031	DIODE 1SV68−01
D 213	5339141	DIODE 1SS270
D 214	5339141	DIODE 1SS270
D 215	5339141	DIODE 1SS270
D 216	5339141	DIODE 1SS270
D 251	5328321	DIODE MA151K (MH)
D 252	5328321	DIODE MA151K (MH)
D 253	5328321	DIODE MA151K (MH)
D 254	5328321	DIODE MA151K (MH)
D 301	5339141	DIODE 1SS270
D 302	5339141	DIODE 1SS270
D 303	5339141	DIODE 1SS270
D 304	5339141	DIODE 1SS270
D 305	5339141	DIODE 1SS270
D 306	5339141	DIODE 1SS270
D 307	5339141	DIODE 1SS270
D 309	5339141	DIODE 1SS270
D 310	5339141	DIODE 1SS270
D 311	5339141	DIODE 1SS270
D 312	5339141	DIODE 1SS270
D 313	5339141	DIODE 1SS270
D 314	5339141	DIODE 1SS270
D 315	5339141	DIODE 1SS270
D 316	5339141	DIODE 1SS270
D 317	5339231	DIODE 1SR35−100A
D 318	5339231	DIODE 1SR35−100A
D 401	5339141	DIODE 1SS270
D 452	5328321	DIODE MA151K (MH)
D 453	5328321	DIODE MA151K (MH)
D 454	5328321	DIODE MA151K (MH)
D 455	5328321	DIODE MA151K (MH)
D 457	5328321	DIODE MA151K (MH)
D 458	5328321	DIODE MA151K (MH)
D 459	5328321	DIODE MA151K (MH)
D 460	5332791	DIODE 1SS270
D 601	5339141	DIODE 1SS270
D 602	5339141	DIODE 1SS270
D 603	5339141	DIODE 1SS270
D 604	5339141	DIODE 1SS270
D 605	5339141	DIODE 1SS270
D 606	5339141	DIODE 1SS270
D 607	5339141	DIODE 1SS270
D 608	5339141	DIODE 1SS270
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D 615	5339141	DIODE 1SS270
D 616	5339141	DIODE 1SS270
D 617	5339141	DIODE 1SS270
D 618	5339141	DIODE 1SS270
D 619	5339141	DIODE 1SS270
D 620	5339141	DIODE 1SS270
D 621	5339141	DIODE 1SS270
D 622	5339141	DIODE 1SS270
D 623	5339141	DIODE 1SS270
D 624	5339141	DIODE 1SS270
D 625	5339141	DIODE 1SS270
D 626	5339141	DIODE 1SS270
D 627	5339141	DIODE 1SS270
D 628	5339141	DIODE 1SS270
D 629	5339141	DIODE 1SS270
D 630	5339141	DIODE 1SS270
D 631	5339141	DIODE 1SS270
D 632	5339141	DIODE 1SS270
D 633	5339141	DIODE 1SS270
D 634	5339141	DIODE 1SS270
D 635	5339141	DIODE 1SS270
D 638	5339141	DIODE 1SS270
D 639	5339141	DIODE 1SS270
D 640	5339141	DIODE 1SS270
D 641	5339141	DIODE 1SS270
D 642	5339141	DIODE 1SS270
D 643	5339141	DIODE 1SS270
D 644	5339141	DIODE 1SS270
D 645	5339141	DIODE 1SS270
D 646	5332791	DIODE 1SS270
D 901	5339141	DIODE 1SS270
IC 101	5365031	IC M74LS08P
IC 102	5359921	IC HD74LS74
IC 103	5359921	IC HD74LS74
IC 104	5365023	IC HD74LS04P
IC 105	5365031	IC M74LS08P
IC 106	5365103	IC HD74LS32P
IC 107	5365031	IC M74LS08P
IC 108	5365283	IC HD74LS175P
IC 109	1367421	IC HD74LS51P
IC 110	5359921	IC HD74LS74
IC 111	5365031	IC M74LS08P
IC 112	5365103	IC HD74LS32P
IC 113	1343931	IC HD74LS244P
IC 114	5365103	IC HD74LS32P
IC 115	5301461	IC HM53461ZP−12
IC 116	5301461	IC HM53461ZP−12
IC 117	5301461	IC HM53461ZP−12
IC 118	5301461	IC HM53461ZP−12
IC 119	5301461	IC HM53461ZP−12
IC 120	5301461	IC HM53461ZP−12
IC 121	5301461	IC HM53461ZP−12
IC 122	5301461	IC HM53461ZP−12
IC 123	5301461	IC HM53461ZP−12
IC 124	5301461	IC HM53461ZP−12
IC 125	5301461	IC HM53461ZP−12
IC 126	5301461	IC HM53461ZP−12
IC 127	5301461	IC HM53461ZP−12
IC 128	5301461	IC HM53461ZP−12
IC 129	5301461	IC HM53461ZP−12
IC 130	5301461	IC HM53461ZP−12
IC 131	5301461	IC HM53461ZP−12

SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
IC 132	5301461	IC HM53461ZP−12	IC 910	5301181	IC HA19508
IC 133	5301461	IC HM53461ZP−12	IC 911	5301181	IC HA19508
IC 134	5301461	IC HM53461ZP−12	IC1101	5304931	IC M51272FP
IC 135	5301461	IC HM53461ZP−12	LED 451	5381667	LED SLH34MT
IC 136	5301461	IC HM53461ZP−12	LED 452	5381001	LED SLR−34URC5
IC 137	5301461	IC HM53461ZP−12	LED 453	5381001	LED SLR−34URC5
IC 138	5301461	IC HM53461ZP−12	LED 601	5381668	LED SLH34MT
IC 139	5301461	IC HM53461ZP−12	LED 602	5381668	LED SLH34MT
IC 140	5301461	IC HM53461ZP−12	LED 603	5381668	LED SLH34MT
IC 141	5301461	IC HM53461ZP−12	LED 604	5381668	LED SLH34MT
IC 201	5362055	IC M50452A−006P	LED 605	5381668	LED SLH34MT
IC 202	5301571	IC 74HC4053AP	LED 606	5381668	LED SLH34MT
IC 203	1345171	IC UPD7564−107	LED 607	5381668	LED SLH34MT
IC 204	1361681	IC HD44007A	LED 608	5381668	LED SLH34MT
IC 205	5301411	IC NJU74HC04D	Q 201	5327074	TRANSISTOR DTA144ES−T
IC 206	5301391	IC SN74HC367	Q 202	5327074	TRANSISTOR DTA144ES−T
IC 208	5301611	IC 74HC157D	Q 203	5327074	TRANSISTOR DTA144ES−T
IC 209	5364601	IC M5278L05	Q 204	5327074	TRANSISTOR DTA144ES−T
IC 251	1342562	IC NJM2245M	Q 205	5327074	TRANSISTOR DTA144ES−T
IC 252	1342562	IC NJM2245M	Q 206	5327074	TRANSISTOR DTA144ES−T
IC 253	1342562	IC NJM2245M	Q 207	5327074	TRANSISTOR DTA144ES−T
IC 254	1342562	IC NJM2245M	Q 208	5327074	TRANSISTOR DTA144ES−T
IC 301	5365673	IC NJM2901N	Q 209	5327061	TRANSISTOR 2SC1740S−ST
IC 302	5365673	IC NJM2901N	Q 210	5327021	TRANSISTOR 2SA844CD
IC 304	5369911	IC M54548L	Q 211	5327061	TRANSISTOR 2SC1740S−ST
IC 305	5362121	IC TC5081AP	Q 251	5326273	TRANSISTOR MMBC1623L56
IC 306	5369171	IC M54543L	Q 252	5326273	TRANSISTOR MMBC1623L56
IC 307	5367061	IC BA6328	Q 253	5326273	TRANSISTOR MMBC1623L56
IC 401	5364306	IC RC78M09A	Q 254	5326273	TRANSISTOR MMBC1623L56
IC 402	1342611	IC NJM78M05FA	Q 255	5326273	TRANSISTOR MMBC1623L56
IC 403	1342611	IC NJM78M05FA	Q 256	5326273	TRANSISTOR MMBC1623L56
IC 404	5364601	IC M5278L05	Q 257	5326273	TRANSISTOR MMBC1623L56
IC 501	1372481	IC HT1070	Q 258	5326273	TRANSISTOR MMBC1623L56
IC 602	1341591	IC M51271SP	Q 259	5328792	TRANSISTOR DTA124K(15)
IC 604	5301411	IC NJU74HC04D	Q 260	5328791	TRANSISTOR DTC124K(25)
IC 605	5301641	IC UPD74HC221AC	Q 261	5328792	TRANSISTOR DTA124K(15)
IC 607	5301571	IC 74HC4053AP	Q 262	5328791	TRANSISTOR DTC124K(25)
IC 608	1361201	IC HA118115NT	Q 301	5327074	TRANSISTOR DTA144ES−T
IC 609	5301401	IC BU4052B	Q 302	5327074	TRANSISTOR DTA144ES−T
IC 610	5364605	IC M5278L09	Q 303	5327074	TRANSISTOR DTA144ES−T
IC 611	5300781	IC M51489L	Q 304	5327074	TRANSISTOR DTA144ES−T
IC 612	1342581	IC NJM2233B	Q 305	5327074	TRANSISTOR DTA144ES−T
IC 613	5367091	IC HA11423	Q 306	5327074	TRANSISTOR DTA144ES−T
IC 614	1341661	IC LM393	Q 307	5327074	TRANSISTOR DTA144ES−T
IC 616	5362291	IC UPD41221C	Q 309	5327074	TRANSISTOR DTA144ES−T
IC 617	5301341	IC MB81461	Q 310	5327074	TRANSISTOR DTA144ES−T
IC 618	5305582	IC MB653839	Q 311	5327074	TRANSISTOR DTA144ES−T
IC 619	5305621	IC MB654458	Q 312	5327074	TRANSISTOR DTA144ES−T
IC 620	5301411	IC NJU74HC04D	Q 313	5324111	TRASISTOR 2SD1209
IC 621	1343041	IC SN74HC86N	Q 314	5327101	TRANSISTER 2SC3553BC
IC 622	1343021	IC SN74HC08N	Q 315	5327061	TRANSISTOR 2SC1740S−ST
IC 623	1353331	IC MB654839	Q 316	5327061	TRANSISTOR 2SC1740S−ST
IC 625	1367451	IC BU4094B	Q 401	1321321	TRANSISTOR 2SB1187(EF)
IC 626	1367451	IC BU4094B	Q 402	5327071	TRANSISTOR DTC124ES
IC 627	1345197	IC HD4074418S (VY-150E002)	Q 403	5327021	TRANSISTOR 2SA844CD
IC 628	1372443	IC HT1069B	Q 453	5328211	TRANSISTOR 2SA1121C(SC)
IC 901	5367841	IC HA19216	Q 454	5328791	TRANSISTOR DTC124K(25)
IC 902	5367841	IC HA19216	Q 455	5328794	TRANSISTOR DTA143EK(13)
IC 903	5367841	IC HA19216	Q 456	5328791	TRANSISTOR DTC124K(25)
IC 904	5368931	IC UPD74HC367G	Q 501	5327063	TRANSISTOR 2SC1740S
IC 905	1350871	IC M5216FP	Q 502	5327063	TRANSISTOR 2SC1740S
IC 906	1350871	IC M5216FP	Q 503	5327063	TRANSISTOR 2SC1740S
IC 907	1353271	IC HD74HC374FP	Q 504	5327021	TRANSISTOR 2SA844CD
IC 908	1353271	IC HD74HC374FP	Q 505	5327063	TRANSISTOR 2SC1740S
IC 909	5301181	IC HA19508	Q 506	5327063	TRANSISTOR 2SC1740S

SYMBOL-NO	P-NO	DESCRIPTION
Q 507	5327063	TRANSISTOR 2SC1740S
Q 508	5327063	TRANSISTOR 2SC1740S
Q 601	5327061	TRANSISTOR 2SC1740S−ST
Q 602	5327021	TRANSISTOR 2SA844CD
Q 603	5327061	TRANSISTOR 2SC1740S−ST
Q 604	5327021	TRANSISTOR 2SA844CD
Q 605	5327021	TRANSISTOR 2SA844CD
Q 606	5327061	TRANSISTOR 2SC1740S−ST
Q 607	5327061	TRANSISTOR 2SC1740S−ST
Q 608	5327061	TRANSISTOR 2SC1740S−ST
Q 609	5327061	TRANSISTOR 2SC1740S−ST
Q 610	5327061	TRANSISTOR 2SC1740S−ST
Q 611	5327061	TRANSISTOR 2SC1740S−ST
Q 612	5327061	TRANSISTOR 2SC1740S−ST
Q 615	5327061	TRANSISTOR 2SC1740S−ST
Q 616	5327061	TRANSISTOR 2SC1740S−ST
Q 617	5327061	TRANSISTOR 2SC1740S−ST
Q 618	5327061	TRANSISTOR 2SC1740S−ST
Q 619	5327061	TRANSISTOR 2SC1740S−ST
Q 620	5327061	TRANSISTOR 2SC1740S−ST
Q 621	5327061	TRANSISTOR 2SC1740S−ST
Q 622	5327061	TRANSISTOR 2SC1740S−ST
Q 623	5327021	TRANSISTOR 2SA844CD
Q 625	5327071	TRANSISTOR DTC124ES
Q 626	5327061	TRANSISTOR 2SC1740S−ST
Q 627	5327061	TRANSISTOR 2SC1740S−ST
Q 628	5327072	TRANSISTER DTA124ES
Q 629	5327252	TRANSISTOR DTC114YS
Q 630	5327252	TRANSISTOR DTC114YS
Q 631	5327252	TRANSISTOR DTC114YS
Q 632	5327252	TRANSISTOR DTC114YS
Q 633	5327252	TRANSISTOR DTC114YS
Q 635	5327252	TRANSISTOR DTC114YS
Q 636	5327071	TRANSISTOR DTC124ES
Q 637	5327073	TRANSISTOR DTC144ES
Q 638	5327071	TRANSISTOR DTC124ES
Q 639	5327074	TRANSISTOR DTA144ES−T
Q 640	5327071	TRANSISTOR DTC124ES
Q 641	5324631	TRANSISTOR 2SA1390C
Q 642	5324631	TRANSISTOR 2SA1390C
Q 643	5327061	TRANSISTOR 2SC1740S−ST
Q 644	5327071	TRANSISTOR DTC124ES
Q 645	5327071	TRANSISTOR DTC124ES
Q 646	5327072	TRANSISTER DTA124ES
Q 647	5327071	TRANSISTOR DTC124ES
Q 648	5327061	TRANSISTOR 2SC1740S−ST
Q 649	5327073	TRANSISTOR DTC144ES
Q 650	5327073	TRANSISTOR DTC144ES
Q 651	5327021	TRANSISTOR 2SA844CD
Q 652	5327021	TRANSISTOR 2SA844CD
Q 653	5327021	TRANSISTOR 2SA844CD
Q 654	5327072	TRANSISTER DTA124ES
Q 655	5324111	TRASISTOR 2SD1209
Q 656	5327021	TRANSISTOR 2SA844CD
Q 657	5327061	TRANSISTOR 2SC1740S−ST
Q 658	5327061	TRANSISTOR 2SC1740S−ST
Q 659	5327061	TRANSISTOR 2SC1740S−ST
Q 660	5327061	TRANSISTOR 2SC1740S−ST
Q 661	5327061	TRANSISTOR 2SC1740S−ST
Q 662	5327061	TRANSISTOR 2SC1740S−ST
Q 663	5327061	TRANSISTOR 2SC1740S−ST
Q 664	5327061	TRANSISTOR 2SC1740S−ST
Q 665	5327074	TRANSISTOR DTA144ES−T
Q 666	5327071	TRANSISTOR DTC124ES
Q 667	5327061	TRANSISTOR 2SC1740S−ST

SYMBOL-NO	P-NO	DESCRIPTION
Q 668	5327071	TRANSISTOR DTC124ES
Q 669	5327021	TRANSISTOR 2SA844CD
Q 670	5327071	TRANSISTOR DTC124ES
Q 901	5327063	TRANSISTOR 2SC1740S
Q 902	5327063	TRANSISTOR 2SC1740S
Q 903	5327063	TRANSISTOR 2SC1740S
Q 904	5327063	TRANSISTOR 2SC1740S
Q 905	5327063	TRANSISTOR 2SC1740S
Q 906	5327063	TRANSISTOR 2SC1740S
Q 907	5327063	TRANSISTOR 2SC1740S
Q 908	5327063	TRANSISTOR 2SC1740S
Q 909	5327063	TRANSISTOR 2SC1740S
Q 910	5327063	TRANSISTOR 2SC1740S
Q 911	5327063	TRANSISTOR 2SC1740S
Q 912	5327063	TRANSISTOR 2SC1740S
Q1101	5326273	TRANSISTOR MMBC1623L56
Q1102	5328963	TRANSISTOR 2SA1037K−FS
Q1103	5326273	TRANSISTOR MMBC1623L56
Q1105	5328963	TRANSISTOR 2SA1037K−FS
Q1106	5326273	TRANSISTOR MMBC1623L56
Q1107	5326273	TRANSISTOR MMBC1623L56
Q1108	5328791	TRANSISTOR DTC124K(25)
Q1109	5326273	TRANSISTOR MMBC1623L56
ZD 201	5339251	DIODE HZS2−C3
DZ 401	5339264	DIODE HZS2B1
ZD 601	5339264	DIODE HZS2B1
		COILS
L 201	5159077	CHOKE COIL 100UH+−10%
L 202	5159071	CHOKE COIL 33UH+−10%
L 302	5159077	CHOKE COIL 100UH+−10%
L 501	5159077	CHOKE COIL 100UH+−10%
L 502	5159077	CHOKE COIL 100UH+−10%
L 601	5159064	CHOKE COIL 10UH+−10%
L 602	5159077	CHOKE COIL 100UH+−10%
L 604	5159077	CHOKE COIL 100UH+−10%
L 605	5159071	CHOKE COIL 33UH+−10%
L 606	5152346	CHOKE COIL 470UH
L 607	5159077	CHOKE COIL 100UH+−10%
L 608	5159077	CHOKE COIL 100UH+−10%
L 609	5159077	CHOKE COIL 100UH+−10%
L 610	5159077	CHOKE COIL 100UH+−10%
L 611	5159077	CHOKE COIL 100UH+−10%
L 612	5159077	CHOKE COIL 100UH+−10%
L 613	5159077	CHOKE COIL 100UH+−10%
L 614	5159077	CHOKE COIL 100UH+−10%
L 615	5159077	CHOKE COIL 100UH+−10%
L 616	5159077	CHOKE COIL 100UH+−10%
L 617	5159077	CHOKE COIL 100UH+−10%
L 618	5159077	CHOKE COIL 100UH+−10%
L 619	5159077	CHOKE COIL 100UH+−10%
L 620	5159077	CHOKE COIL 100UH+−10%
L 901	5152337	CHOKE COIL 100UH+−10%
L 902	5159077	CHOKE COIL 100UH+−10%
L1101	5159077	CHOKE COIL 100UH+−10%
		CRYSTALS
XL 201	5780781	XTAL
XL 202	5778222	CRYSTAL
XL 601	5781871	CRYSTAL
XL 602	5782832	CRYSTAL 17.7MHZ
XL 603	5782832	CRYSTAL 17.7MHZ
		MISCELLANEOUS
BL 601	5272373	LINE FILTER

SYMBOL-NO	P-NO	DESCRIPTION
CP 251	0235362	LINE FILTER
CP 252	0235362	LINE FILTER
CP 253	0235362	LINE FILTER
CP 254	0235362	LINE FILTER
CP 255	0235362	LINE FILTER
CP 256	0235362	LINE FILTER
CP 257	0235362	LINE FILTER
CP 258	0235362	LINE FILTER
CP 259	0235362	LINE FILTER
CP 260	0235362	LINE FILTER
CP 261	0235362	LINE FILTER
CP 262	0235362	LINE FILTER
CP 263	0235362	LINE FILTER
CP 264	0235362	LINE FILTER
CP 265	0235363	LINE FILTER
CP 266	0235363	LINE FILTER
CP 267	0235363	LINE FILTER
CP 601	0235363	LINE FILTER
CP 602	0235361	FILTER
CP 603	0235361	FILTER
CP 604	0235361	FILTER
CP 605	0235361	FILTER
CP 606	0235361	FILTER
CP 607	0235361	FILTER
CP 608	0235361	FILTER
CP 609	0235361	FILTER
CP 610	0235361	FILTER
CP 611	5165165	FILTER
CP 612	5163082	BAND PASS FILTER
CP 613	5165162	FILTER
CP 614	5165162	FILTER
CP 615	5165165	FILTER
CP 616	5165164	FILTER
CP 617	5165162	FILTER
CP 618	5165162	FILTER
CP 621	0235362	LINE FILTER
CP 622	0235362	LINE FILTER
CP 623	0235362	LINE FILTER
CP 624	0235362	LINE FILTER
CP 625	0235362	LINE FILTER
CP 626	0235362	LINE FILTER
CP 627	0235362	LINE FILTER
CP 628	0235362	LINE FILTER
CP 629	0235362	LINE FILTER
CP 630	0235362	LINE FILTER
CP 631	0235362	LINE FILTER
CP 632	0235362	LINE FILTER
CP 633	0235362	LINE FILTER
CP 634	0235362	LINE FILTER
CP 635	0235362	LINE FILTER
CP 636	0235362	LINE FILTER
CP 637	0235362	LINE FILTER
CP 638	0235362	LINE FILTER
CP 639	0235362	LINE FILTER
CP 640	0235362	LINE FILTER
CP 641	0235362	LINE FILTER
CP 642	0235362	LINE FILTER
CP 643	0235362	LINE FILTER
CP 904	5165162	FILTER
CP 905	5165162	FILTER
CP 906	5165164	FILTER
DL 501	5164911	FILTER
DL 502	5164911	FILTER
DL 610	5165161	DELAY LINE
DL 611	5165161	DELAY LINE
DL 612	5164911	FILTER
DL 613	5165163	DELAY LINE
DL 615	5786131	DELAY LINE
FC 901	5885012	CONNECTOR
GL 001	5382391	DIDOE GL−471
GPS 002	5382351	DIDOE GP2S05J
GPS 003	5333391	TRANSISTOR NJL5161K
GPS 004	5382381	IC GP2S07(A,B)
GPS 005	5382351	DIDOE GP2S05
GPS 006	5382053	IC GP2S04B
J 251	5691021	PIN CONNECTOR
LA 901	5382092	DIODE LA−301VB
LT 601	5124104	CHOKE COIL 22UH
RF 301	0170471	FUSE RESISTOR 2.2OHM+−5% 1/4W
RF 302	01704713	FUSE RESISTOR 2.2OHM+−5% 1/4W
RF 303	0170472	FUSE RESISTOR 3.3OHM+−5% 1/4W
RM 451	5491523	PWB ASSY IR RECIEVER
S 451	5634921	SWITCH
S 452	5621463	SWITCH
S 453	5621783	SWITCH
S 454	5621784	SWITCH
S 906	5633911	SWITCH
SW 907	5635231	SWITCH
SW 251	5623872	SWITCH
SW 252	5623872	SWITCH
SW 253	5624251	SLIDE SWITCH
SW 601	5635113	SWITCH
SW 602	5635113	SWITCH
SW 603	5635113	SWITCH
SW 604	5635113	SWITCH
SW 605	5635113	SWITCH
SW 606	5635113	SWITCH
SW 607	5635113	SWITCH
SW 608	5635113	SWITCH
SW 609	5635113	SWITCH
SW 610	5635113	SWITCH
SWP 001	5635331	SWITCH
TPS 001	1321602	TRANSISTOR TPS605

MECHANICAL PARTS LIST

SYMBOL-NO	P-NO	DESCRIPTION
		FOR FINAL ASSEMBLY
011	1605994	PWB ASSY MECHANISM SENSOR
101	6006716	COVER,TOP
102	6486676	CASE,FRONT
103	6489141	CAP
104	6484665	CAP,CONTROL
105	6484653	CAP
106	4890482	BRACKET
107	5558111	COUNTER
108	6008522	COVER,REAR(R)
109	6008262	COVER,REAR
110	6893561	RATCH
111	6809971	BRACKET,PWB(B)
112	6811721	BRACKET
113	6811731	BRACKET
114	6811741	BRACKET
115	6810891	BRACKET
116	6809981	BRACKET,PWB(C)
117	6813761	BRACKET
118	6528221	PLATE,EARTH
119	4892891	HOLDER,COUNTER
120	4892901	HOLDER,PWB
121	5274183	SWITCHING REGULATER
122	7499932	PLATE
123	7478402	PLATE,SHIELD
124	6813882	SPACER
126	6552751	SPRING
127	4520651	HOLDER
128	4520652	HOLDER
129	7230901	E RING FOR SPRING MOUNTING
130	6072702	KNOB
131	6324432	PREVENTION SPRING
132	6813891	DAMPER
133	7499452	PLATE,SHIELD
134	6897501	BAND
135	7419231	PLATE
136	6006721	COVER,BOTTOM
137	6808681	FELT,LEG
138	4890391	BRACKET
139	6813812	LEVER
140	6813821	LEVER
141	7709091	WASHER
142	6303471	SPRING
145	7701681	SPACER
⚠150	4101463	CORD,POWER
201	6415936	TABLE,REEL
202	6806711	ARM
203	7778859	POLYSLIDER WASHER
204	7794682	BRACKET
205	6556461	SPRING
206	6347961	GEAR,WORM
207	6440112	GEAR
208	6806721	BASE
209	6564334	DRUM
210	5579341	MOTOR,LOADING
211	4512211	HOLDER,SHAFT
212	6416501	TABLE,REEL
213	7442062	BRACKET
214	7442072	HOLDER

SYMBOL-NO	P-NO	DESCRIPTION
215	6527601	SPRING
216	6821131	STOPPER
217	7442081	HOLDER
218	6807022	GUIDE
219	7472781	PLATE
220	6437381	GEAR
221	7873811	GEAR
222	6523452	SPRING
223	6806702	ARM,LOCK
224	6820271	ARM
225	65431313	SPRING
226	6437411	GEAR
227	6556481	SPRING
228	6556482	SPRING
229	7786112	POL SLIDER WASHER
230	7474841	PLATE
231	7469592	SLIDER
232	6523912	SPRING
233	4512201	HOLDER,SHAFT
234	7786113	POLYESTER SLIDER WASHER
235	6437451	GEAR
236	6347983	GEAR(RF)
237	7469181	PLATE
238	6552311	SPRING
239	7467202	ARM
240	6437401	GEAR
241	6347971	GEAR
242	7789311	WASHER
246	7473041	ARM
252	6807051	HOLDER
256	5446882	HEAD,THERMAL
257	6555954	SPRING
258	6806841	GUIDE
259	6555953	SPRING
260	6806993	INK SENSOR
261	6806802	HOLDER,SENSOR
268	6807002	GUIDE
269	6807013	GUIDE
271	1605962	PWB ASSY POSITION SENSOR 1
282	5571634	MOTOR,FAN
301	7132707	POPER SUPPLY MECHANISM ASSY
302	6564274	ROLLER
303	6564292	ROLLER
304	6300081	SPRING
305	4512121	HOLDER
306	6357692	BELT
307	6806742	ARM
308	6806751	ARM
309	6552041	SPRING
310	1605974	PWB ASSY SENSOR/TRAY SW
311	7787578	WASHER
312	6440122	GEAR
313	6820431	HOLDER
314	7467213	ARM
315	6564361	ROLLER
316	6437361	GEAR
319	6564341	ROLLER,RUBBER
320	6806922	TRAY
321	6527612	SPRING
322	6424441	ROLLER

SYMBOL-NO	P-NO	DESCRIPTION
323	6806872	TRAY
324	6806761	ARM
325	6806771	ARM
326	6806733	LEVER
327	7472981	PLATE
328	6556491	SPRING
329	6527591	SPRING
340	6424451	ROLLER
341	6556302	SPRING
342	6300844	SPRING
343	6016305	TRAY
901	7784114	SCREW (3X6)
902	8741405	SCREW — 3MMD X 5MM BIND
903	8652406	SCREW (PSW3X6)
904	8691410	SCREW
905	7784115	SCREW (M3X6)
906	7784802	SCREW (3X6)
907	8741405	SCREW — 3MMD X 5MM BIND
908	87411063	SCREW (2X6)
909	8744406	BINDING SCREW — 377D X 6MM
951	8741405	SCREW — 3MMD X 5MM BIND
952	8741412	SCREW (B3X12)
953	87411083	SCREW (2X8)
954	7707531	WASHER
955	7774942	E RING
956	8741403	BIND SCREW—3MMDX3MM
958	8741425	SCREW (B3X25)
959	8812114	WASHER — 3MMD SMALL
960	8813114	SPRING WASHER—3MMD

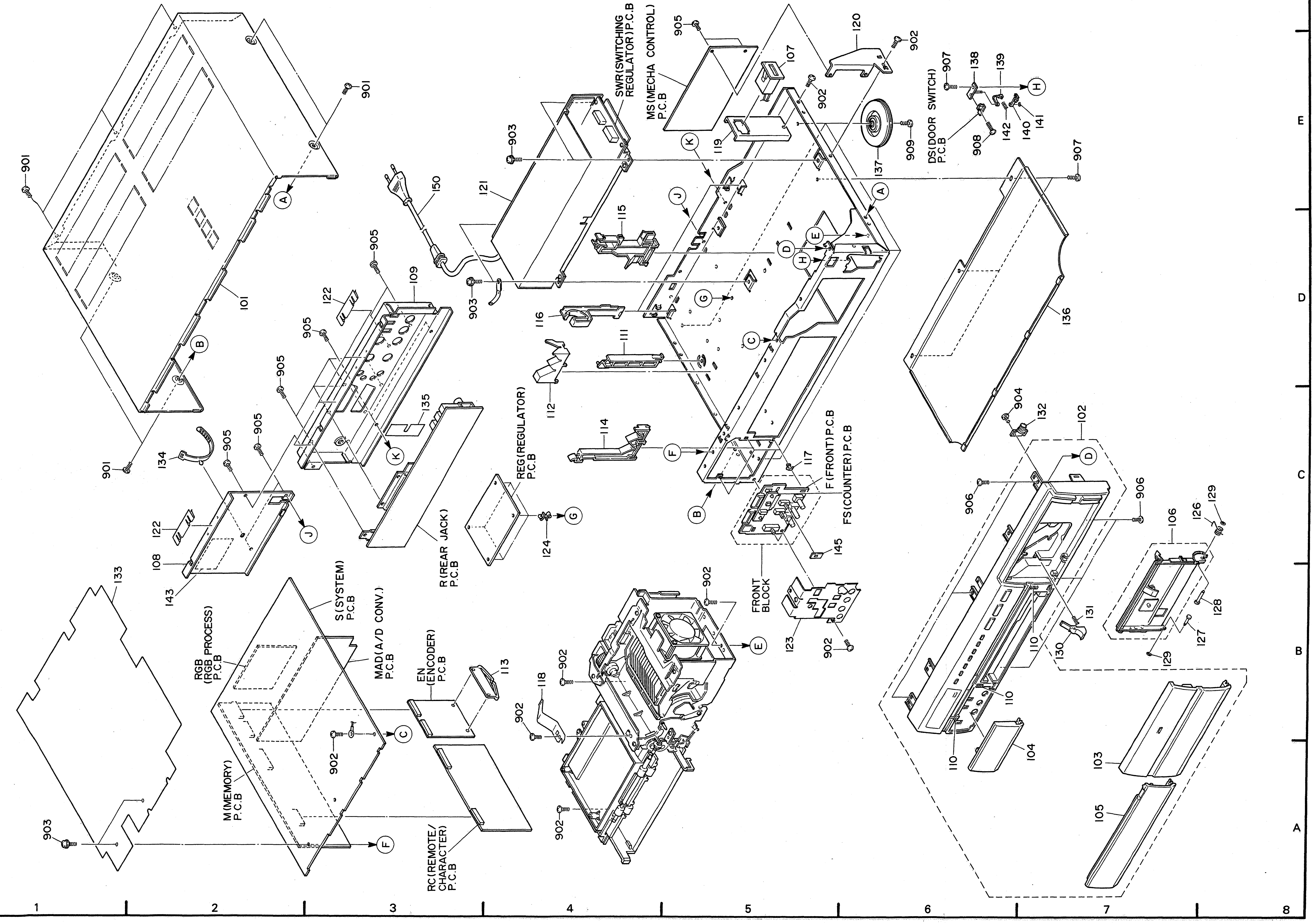
FOR ACCESSORIES

	5858073	CABLE, PERI CONNECTOR
	5860751	CONNECTOR, CORD
	5638806	REMOTE HAND SET
	6249232	TRAY
	5855381	PATCH CORD
	7981871	PROTECTOR

SYMBOL-NO	P-NO	DESCRIPTION

MEMO

EXPLODED VIEWS CABINET SECTION


101
901
A
B
150
121
903
SWR(SWITCHING REGULATOR)P.C.B
905
MS(MECHA CONTROL) P.C.B
107
902
120
119
K
J
115
137
909
DS(DOOR SWITCH) P.C.B
907
138
139
H
140
141
142
908
D
E
G
116
111
112
C
REG(REGULATOR) P.C.B
124
114
F
117
F(FRONT)P.C.B
FS(COUNTER)P.C.B
FRONT BLOCK
145
123
109
122
135
R(REAR JACK) P.C.B
134
108
143
133
S(SYSTEM) P.C.B
RGB (RGB PROCESS) P.C.B
MAD(A/D CONV.) P.C.B
EN (ENCODER) P.C.B
113
M(MEMORY) P.C.B
RC(REMOTE/ CHARACTER) P.C.B
118
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904
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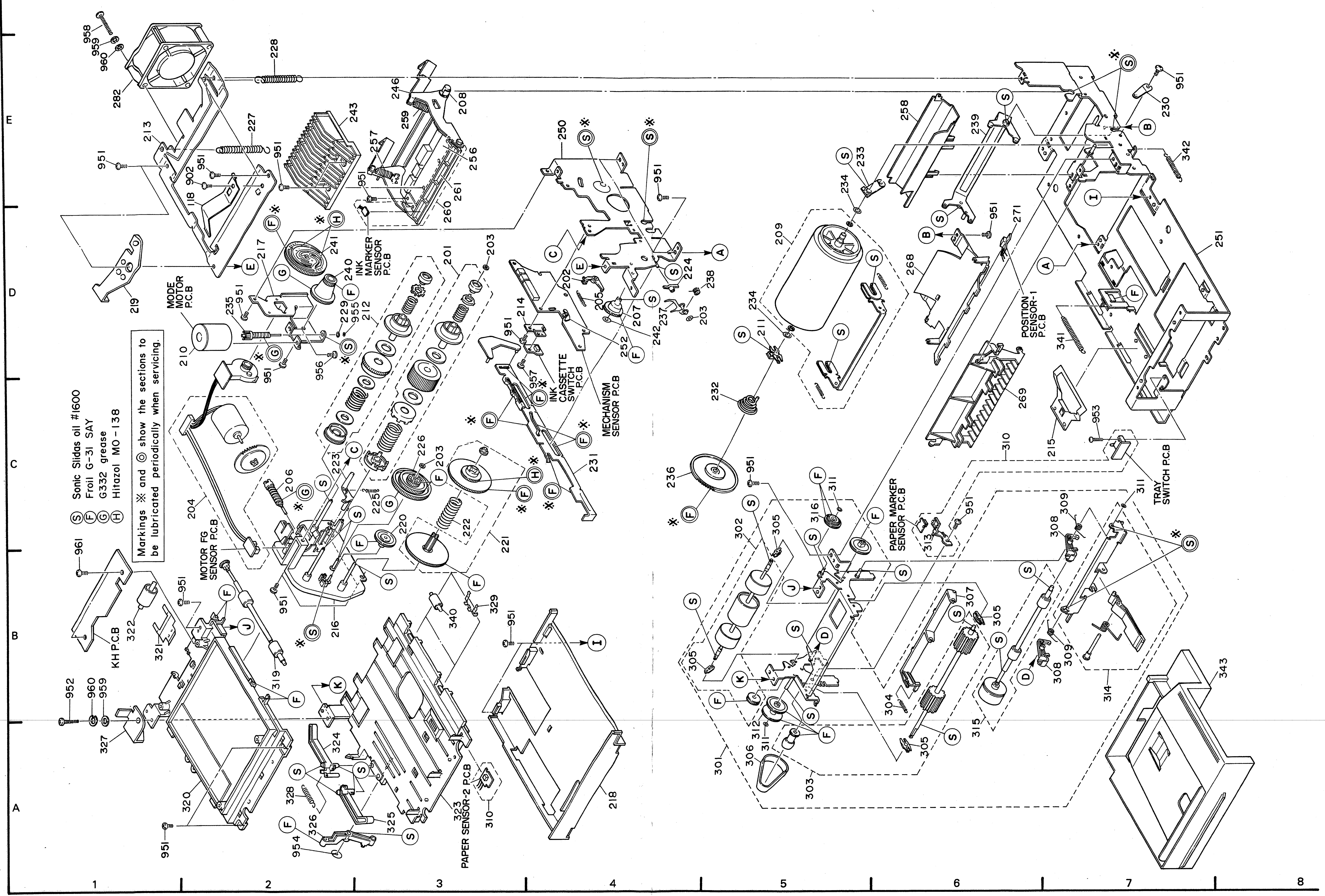
PRINT MECHANISM SECTION



Ⓢ Sonic Slidas oil #1600
Ⓕ Froil G-31 SAY
Ⓖ G332 grease
Ⓗ Hitazol MO-138

Markings ※ and ◎ show the sections to be lubricated periodically when servicing.

MODE MOTOR P.C.B
INK MARKER SENSOR P.C.B
INK CASSETTE SWITCH P.C.B
MECHANISM SENSOR P.C.B
MOTOR FG SENSOR P.C.B
KH P.C.B
PAPER SENSOR-2 P.C.B
PAPER MARKER SENSOR P.C.B
POSITION SENSOR-1 P.C.B
TRAY SWITCH P.C.B
A
B
C
D
E
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201
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HITACHI

TK No. 3483E

VY-150E

SERVICE MANUAL

SUPPLEMENT

Technical Data

This supplementary manual is issued for the changes to the circuit boards in the VY-150E.
Use this manual together with the following manuals.

CONTENTS

LIST OF CHANGED CIRCUIT BOARDS ······················ 1
CIRCUIT BOARD DIAGRAMS
  S (SYSTEM) CIRCUIT BOARD ···························· 2
  R (REAR JACK) CIRCUIT BOARD ························· 4
  MAD (A/D CONV.) CIRCUIT BOARD ······················ 5
  F (FRONT) CIRCUIT BOARD ····························· 6
  EN (ENCODER) CIRCUIT BOARD ·························· 6
  RGB (RGB PROCESS) CIRCUIT BOARD ···················· 6

MANUALS RELATED TO THE VY-150E

Name of Manual	Language	Manual No.	Chapters included
Technical Data	English	3322E	Chapters 1-6
Technical Information	English	3323E	———

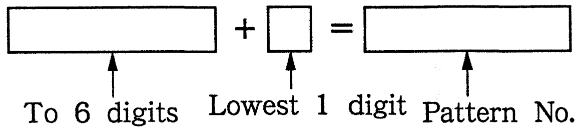
SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

COLOUR VIDEO PRINTER

September 1991 TOKAI WORKS

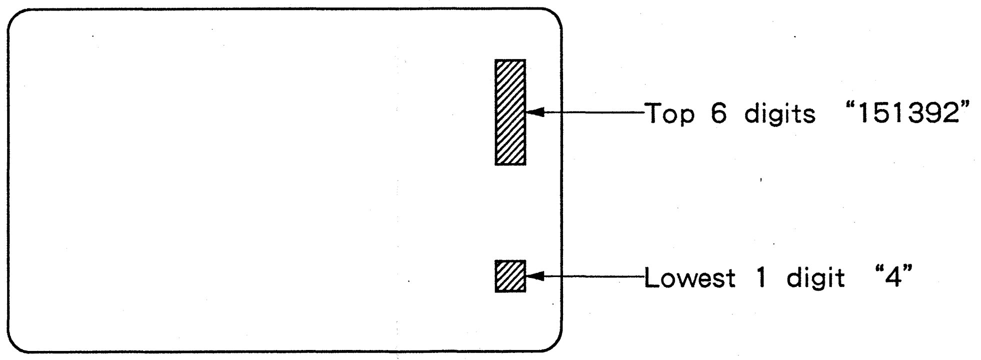
LIST OF CHANGED CIRCUIT BOARDS

Refer to the pattern numbers shown in the table below to check whether the circuit boards have been changed or not.
The pattern numbers are indicated on the surfaces of patterns using top 6 digits and the lowest 1 digit.
Check the lowest 1 digit. If it coincides the numeral in the table below, use this manual. If they do not coincide, use the service manual (No. 3322E).

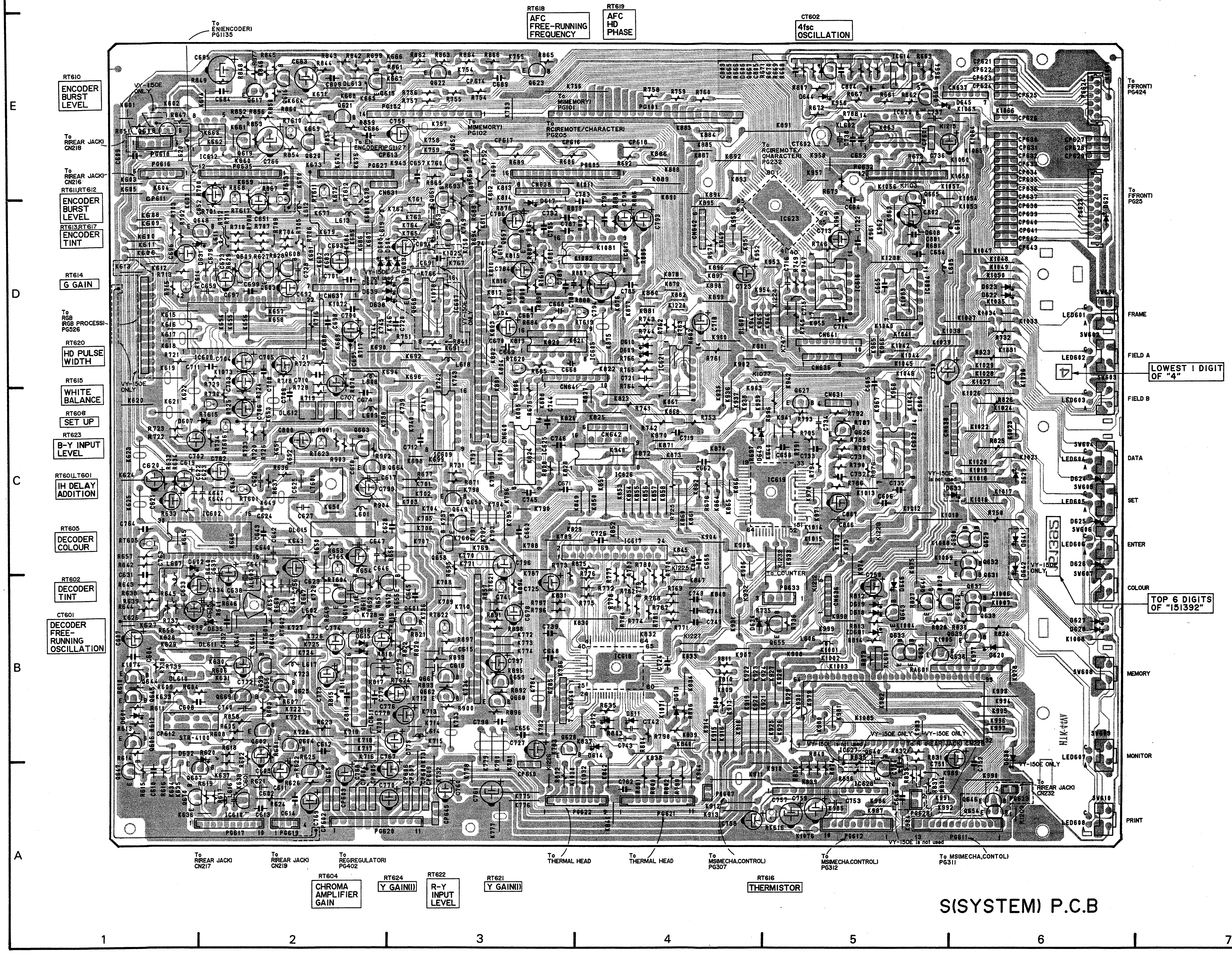


Name of board	Pattern No.	Page to be referred to
S (SYSTEM)	151392 – 4	P2
R (REAR JACK)	151472 – 2	P4
MAD (A/CONV.)	151478 – 2	P5
F (FRONT)	151398 – 4	P6
EN (ENCODER)	151474 – 2	P6
RGB (RGB PROCESS)	151464 – 2	P6

Example :
S (SYSTEM) Circuit Board



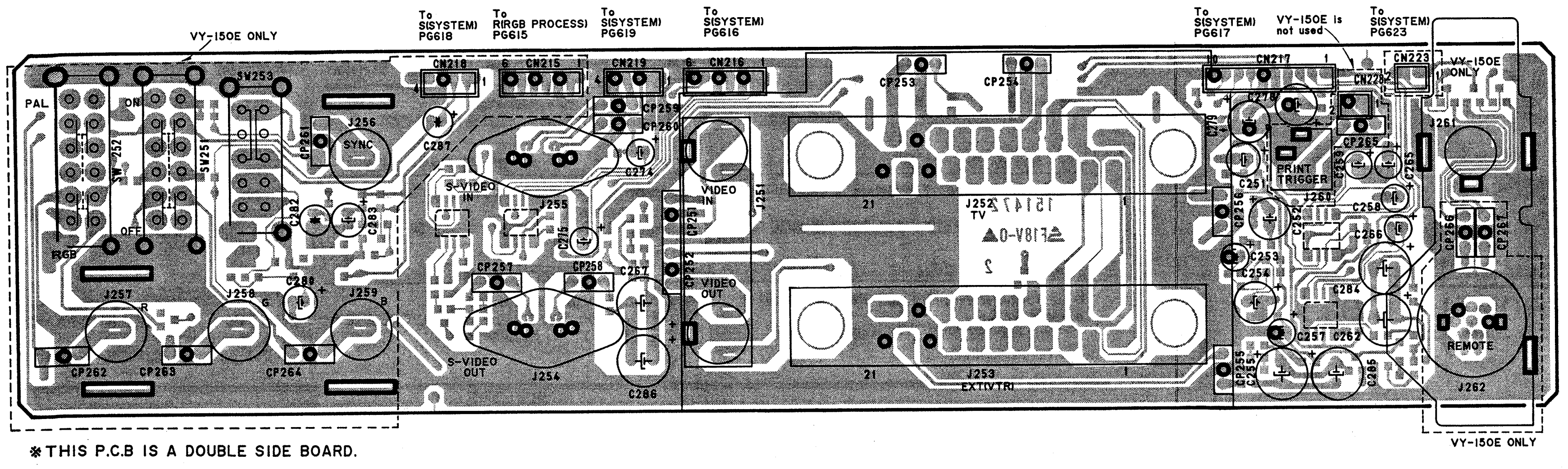
S (SYSTEM) CIRCUIT BOARD DIAGRAM


RT618
AFC FREE-RUNNING FREQUENCY
RT619
AFC HD PHASE
CT602
4fsc OSCILLATION
To EN(ENCODER) PG1135
RT610
ENCODER BURST LEVEL
To R(REAR JACK) CN218
To R(REAR JACK) CN216
RT611,RT612
ENCODER BURST LEVEL
RT613,RT617
ENCODER TINT
RT614
G GAIN
To RGB (RGB PROCESS) PG526
RT620
HD PULSE WIDTH
RT615
WHITE BALANCE
RT606
SET UP
RT623
B-Y INPUT LEVEL
RT601,LT601
1H DELAY ADDITION
RT605
DECODER COLOUR
RT602
DECODER TINT
CT601
DECODER FREE-RUNNING OSCILLATION
To F(FRONT) PG424
To F(FRONT) PG25
FRAME
FIELD A
FIELD B
LOWEST 1 DIGIT OF "4"
DATA
SET
ENTER
COLOUR
TOP 6 DIGITS OF "151392"
MEMORY
MONITOR
PRINT
To R(REAR JACK) CN232
To R(REAR JACK) CN217
To R(REAR JACK) CN219
To REG(REGULATOR) PG402
To THERMAL HEAD
To THERMAL HEAD
To M(MECHA.CONTROL) PG307
To M(MECHA.CONTROL) PG312
To M(MECHA.CONTOL) PG311
RT604
CHROMA AMPLIFIER GAIN
RT624
Y GAIN(I)
RT622
R-Y INPUT LEVEL
RT621
Y GAIN(I)
RT616
THERMISTOR
VY-150E ONLY
E
D
C
B
A
1
2
3
4
5
6
7
8

S(SYSTEM) P.C.B

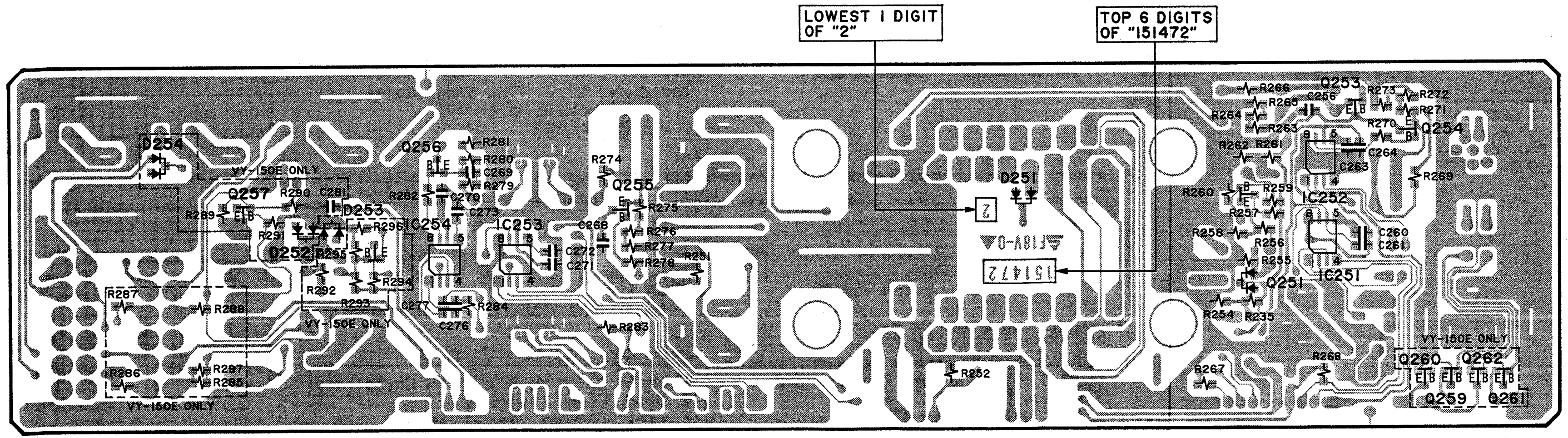
R (REAR JACK) CIRCUIT BOARD DIAGRAM

MAD (A/D CONV.) CIRCUIT BOARD DIAGRAM


VY-150E ONLY
To S(SYSTEM) PG618
To R(RGB PROCESS) PG615
To S(SYSTEM) PG619
To S(SYSTEM) PG616
To S(SYSTEM) PG617
VY-150E is not used
To S(SYSTEM) PG623
CN218
CN215
CN219
CN216
CN217
CN222
CN223
PAL
SW253
SW252
SW251
RGB
OFF
ON
SYNC
J256
J257
J258
J259
S-VIDEO IN
J255
S-VIDEO OUT
J254
VIDEO IN
VIDEO OUT
J251
J252 TV
J253 EXT(VTR)
PRINT TRIGGER
REMOTE
J261
J262
CP253
CP254
CP257
CP258
CP262
CP263
CP264
C286
C287
C288
151472
F18V-0
2
21
VY-150E ONLY

※THIS P.C.B IS A DOUBLE SIDE BOARD.

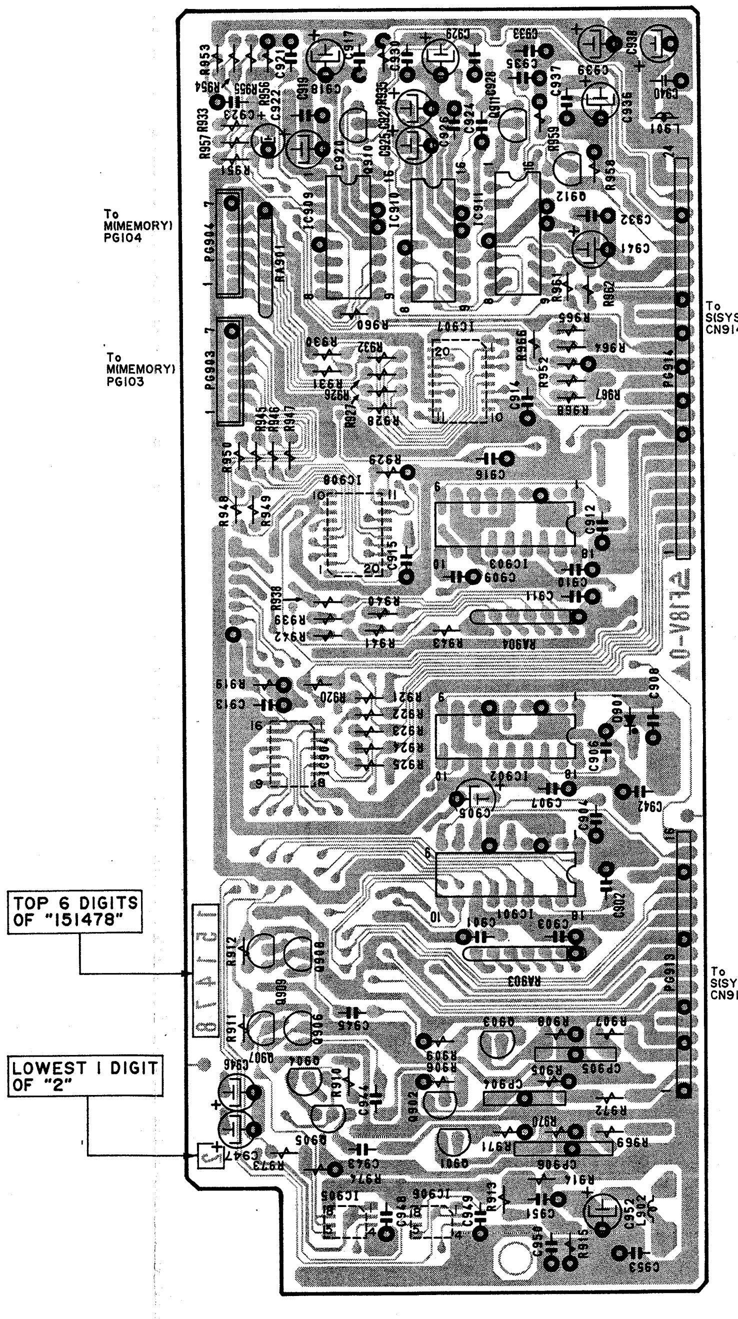
R(REAR JACK)P.C.B


LOWEST 1 DIGIT OF "2"
TOP 6 DIGITS OF "151472"
D254
VY-150E ONLY
Q257
D253
D252
Q256
C254
IC253
Q255
D251
2
F18V-0
151472
Q253
Q254
IC252
IC251
Q251
VY-150E ONLY
Q260
Q262
Q259
Q261
VY-150E ONLY
VY-150E ONLY
R252

※THIS P.C.B IS A DOUBLE SIDE BOARD.

R(REAR JACK)P.C.B

- LEADLESS COMPONENT DIAGRAM -


To M(MEMORY) PG104
To M(MEMORY) PG103
To S(SYSTEM) CN914
To S(SYSTEM) CN913
TOP 6 DIGITS OF "151478"
LOWEST 1 DIGIT OF "2"
PG904
PG903
IC909
IC910
IC911
IC907
IC908
IC906
IC902
IC901
IC903
IC904
IC905
F18V-0

MAD(A/D CONV.)P.C.B

E

D

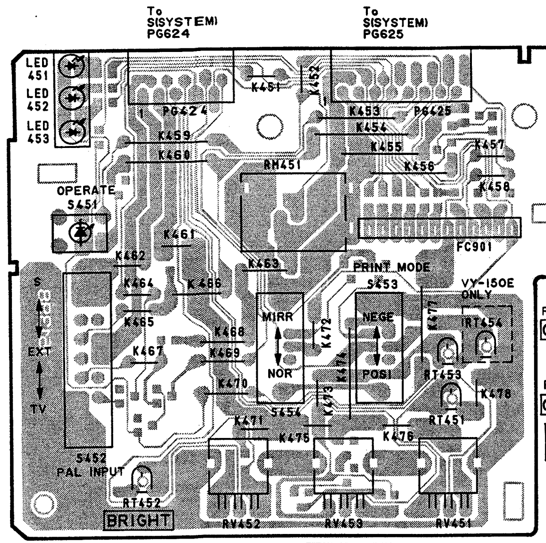
C

B

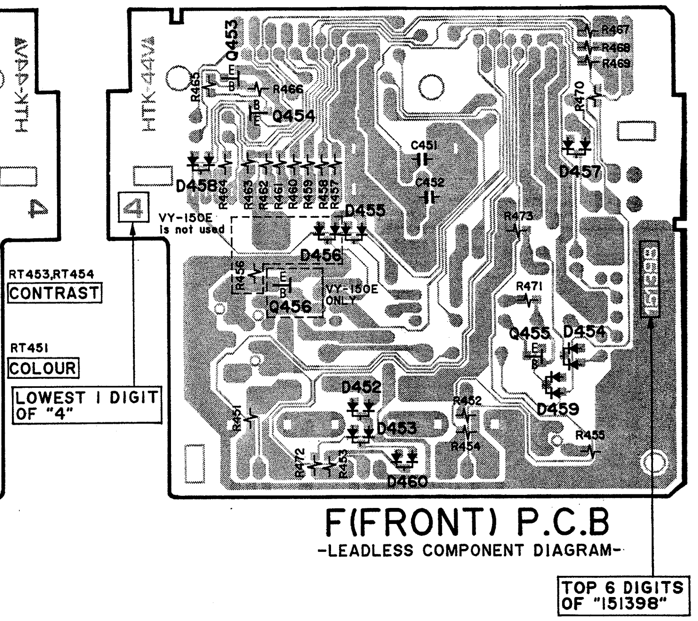
A

1 2 3 4 5 6 7 8

F (FRONT) CIRCUIT BOARD DIAGRAM

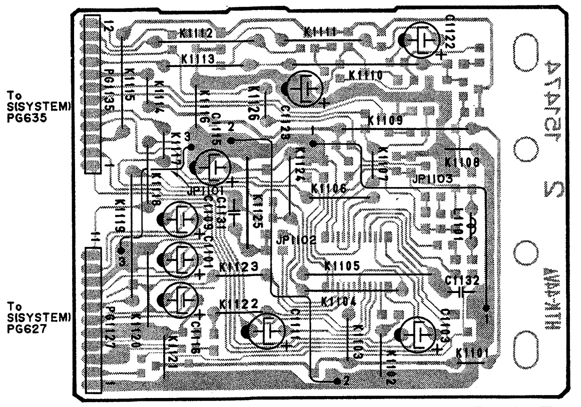

To S(SYSTEM) PG624
To S(SYSTEM) PG625
LED 451
LED 452
LED 453
OPERATE S451
PRINT MODE S453
VY-150E ONLY
MIRR
NOR
NEGE
POSI
EXT
TV
S452 PAL INPUT
RT452 BRIGHT
RV452
RV453
RV451
RT454
RT453
RT451
FC901
CONTRAST
COLOUR

F(FRONT) P.C.B

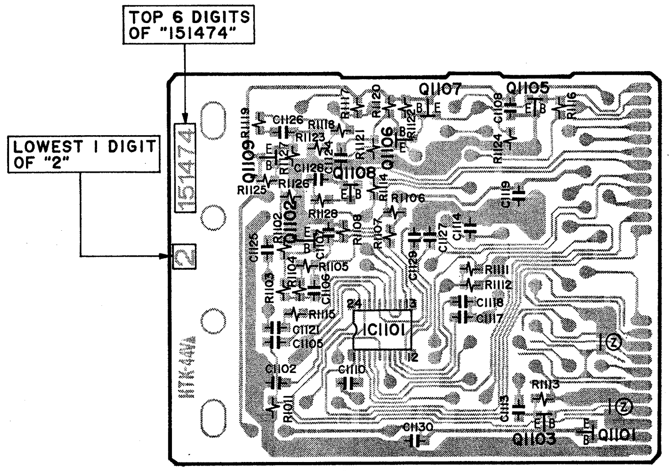

RT453,RT454 CONTRAST
RT451 COLOUR
LOWEST 1 DIGIT OF "4"
VY-150E is not used
VY-150E ONLY
HTK-44V
Q453
Q454
Q455
Q456
D451
D452
D453
D454
D455
D456
D457
D458
D459
D460
TOP 6 DIGITS OF "151398"

F(FRONT) P.C.B
-LEADLESS COMPONENT DIAGRAM-

EN (ENCODER) CIRCUIT BOARD DIAGRAM


To S(SYSTEM) PG635
To S(SYSTEM) PG627
IC1101
JP1101
JP1102
JP1103
HTK-44V

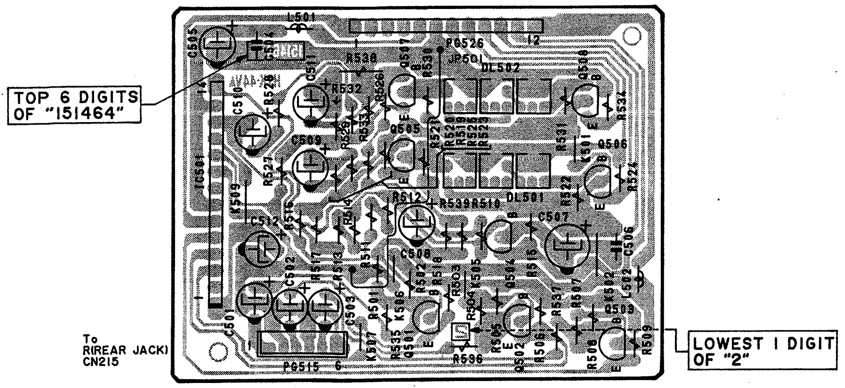
EN(ENCODER) P.C.B


TOP 6 DIGITS OF "151474"
LOWEST 1 DIGIT OF "2"
151474
2
Q1101
Q1102
Q1103
Q1105
Q1106
Q1107
Q1108
Q1109
IC1101
HTK-44V

NOTE:MARK "Ⓩ" IS LEADLESS (CHIP) JUMPER.

EN(ENCODER) P.C.B
-LEADLESS COMPONENT DIAGRAM-

RGB (RGB PROCESS) CIRCUIT BOARD DIAGRAM


TOP 6 DIGITS OF "151464"
To R(REAR JACK) CN215
LOWEST 1 DIGIT OF "2"
L501
PG526
PG515
JP501
DL502
DL501
Q501
Q502
Q503
Q504
Q505
Q506

RGB(RGB PROCESS) P.C.B

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VY-150E TK No. 3483E TOKAI

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HITACHI

SERVICE MANUAL

V01823

SUPPLEMENT

TK | No. 3483E

VY-150E

Technical Data

This supplementary manual is issued for the changes to the circuit boards in the VY-150E.
Use this manual together with the following manuals.

CONTENTS

LIST OF CHANGED CIRCUIT BOARDS ······················· 1
CIRCUIT BOARD DIAGRAMS
  S (SYSTEM) CIRCUIT BOARD ···························· 2
  R (REAR JACK) CIRCUIT BOARD ························· 4
  MAD (A/D CONV.) CIRCUIT BOARD ······················ 5
  F (FRONT) CIRCUIT BOARD ····························· 6
  EN (ENCODER) CIRCUIT BOARD ·························· 6
  RGB (RGB PROCESS) CIRCUIT BOARD ···················· 6

MANUALS RELATED TO THE VY-150E

Name of Manual	Language	Manual No.	Chapters included
Technical Data	English	3322E	Chapters 1-6
Technical Information	English	3323E	———

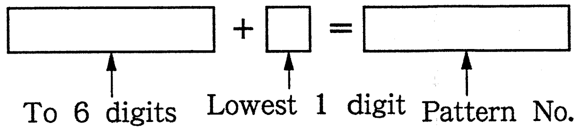
SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

COLOUR VIDEO PRINTER

September 1991 TOKAI WORKS

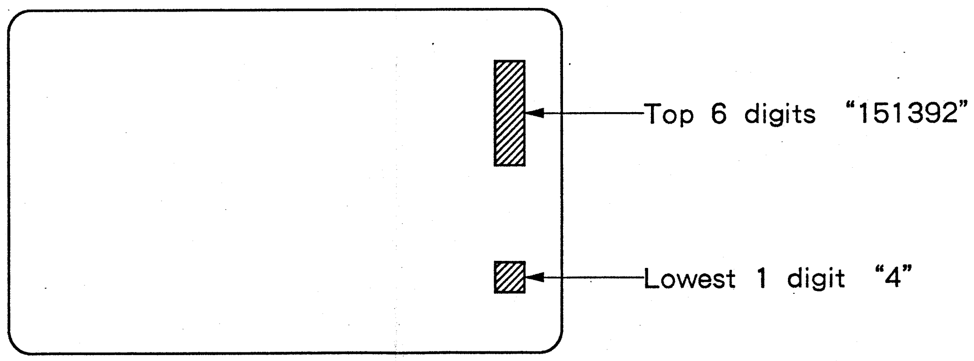
LIST OF CHANGED CIRCUIT BOARDS

Refer to the pattern numbers shown in the table below to check whether the circuit boards have been changed or not.
The pattern numbers are indicated on the surfaces of patterns using top 6 digits and the lowest 1 digit.
Check the lowest 1 digit. If it coincides the numeral in the table below, use this manual. If they do not coincide, use the service manual (No. 3322E).

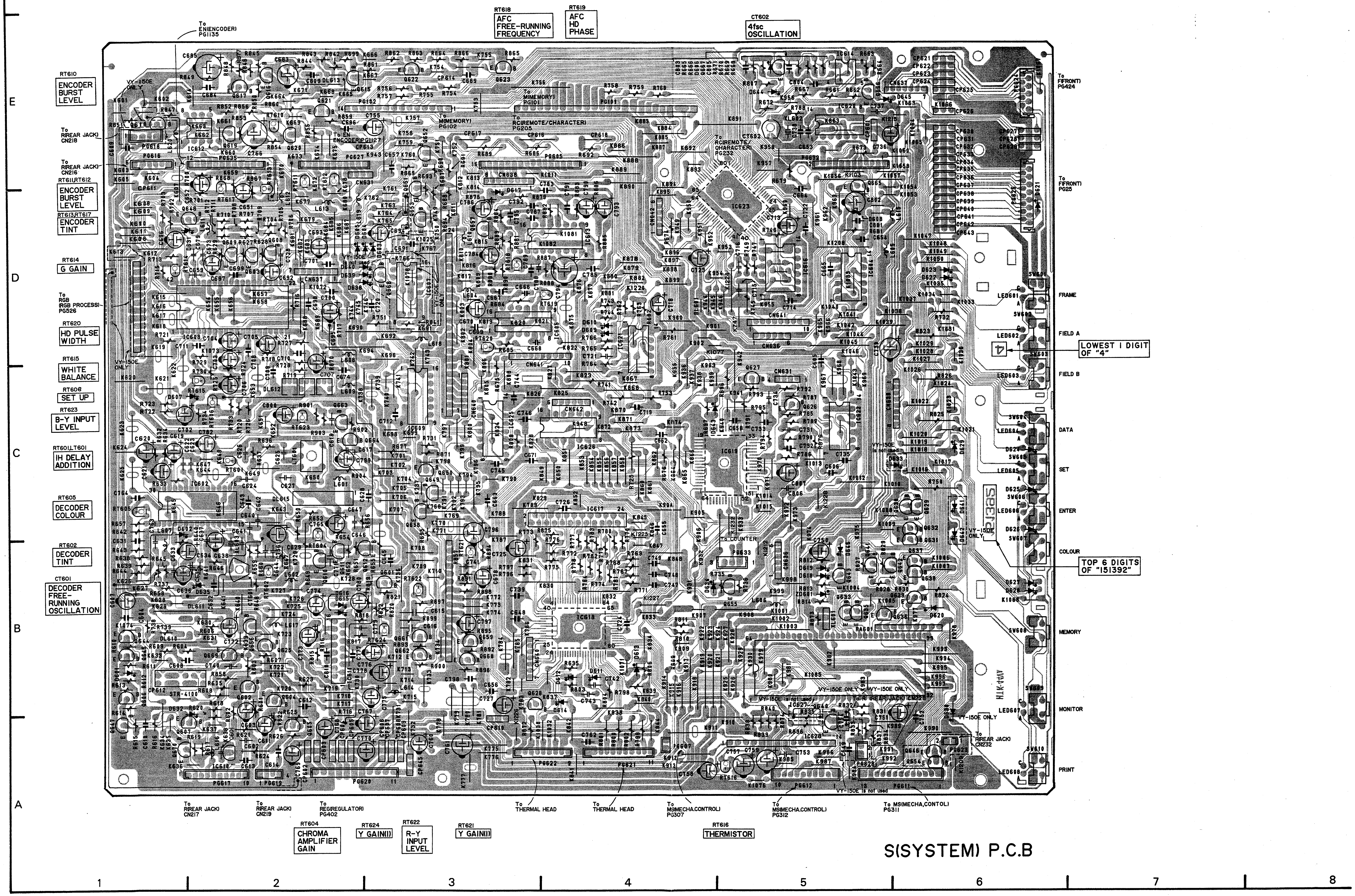


Name of board	Pattern No.	Page to be referred to
S (SYSTEM)	151392 – 4	P2
R (REAR JACK)	151472 – 2	P4
MAD (A/CONV.)	151478 – 2	P5
F (FRONT)	151398 – 4	P6
EN (ENCODER)	151474 – 2	P6
RGB (RGB PROCESS)	151464 – 2	P6

Example :
S (SYSTEM) Circuit Board



S (SYSTEM) CIRCUIT BOARD DIAGRAM

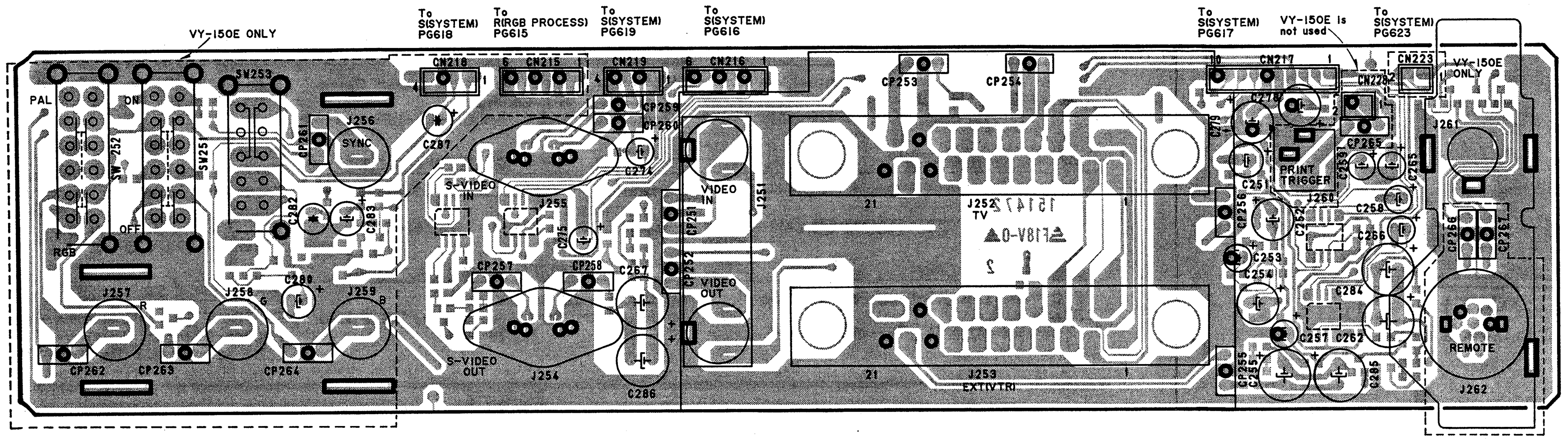


RT618
AFC FREE-RUNNING FREQUENCY
RT619
AFC HD PHASE
CT602
4fsc OSCILLATION
To EN(ENCODER) PG1135
RT610
ENCODER BURST LEVEL
To R(REAR JACK) CN218
To R(REAR JACK) CN216
RT611,RT612
ENCODER BURST LEVEL
RT613,RT617
ENCODER TINT
RT614
G GAIN
To RGB (RGB PROCESS) PG526
RT620
HD PULSE WIDTH
RT615
WHITE BALANCE
RT606
SET UP
RT623
B-Y INPUT LEVEL
RT601,LT601
1H DELAY ADDITION
RT605
DECODER COLOUR
RT602
DECODER TINT
CT601
DECODER FREE-RUNNING OSCILLATION
VY-150E ONLY
To M(MEMORY) PG101
To RC(REMOTE/CHARACTER) PG205
To M(MEMORY) PG102
To EN(ENCODER) PG1127
To RC(REMOTE/CHARACTER) PG232
To F(FRONT) PG424
To F(FRONT) PG25
FRAME
FIELD A
FIELD B
DATA
SET
ENTER
COLOUR
MEMORY
MONITOR
PRINT
LOWEST 1 DIGIT OF "4"
TOP 6 DIGITS OF "151392"
To COUNTER
To R(REAR JACK) CN232
VY-150E is not used
To R(REAR JACK) CN217
To R(REAR JACK) CN219
To REG(REGULATOR) PG402
To THERMAL HEAD
To THERMAL HEAD
To MS(MECHA.CONTROL) PG307
To MS(MECHA.CONTROL) PG312
To MS(MECHA.CONTOL) PG311
RT604
CHROMA AMPLIFIER GAIN
RT624
Y GAIN(1)
RT622
R-Y INPUT LEVEL
RT621
Y GAIN(1)
RT616
THERMISTOR
A
B
C
D
E
1
2
3
4
5
6
7
8

S(SYSTEM) P.C.B

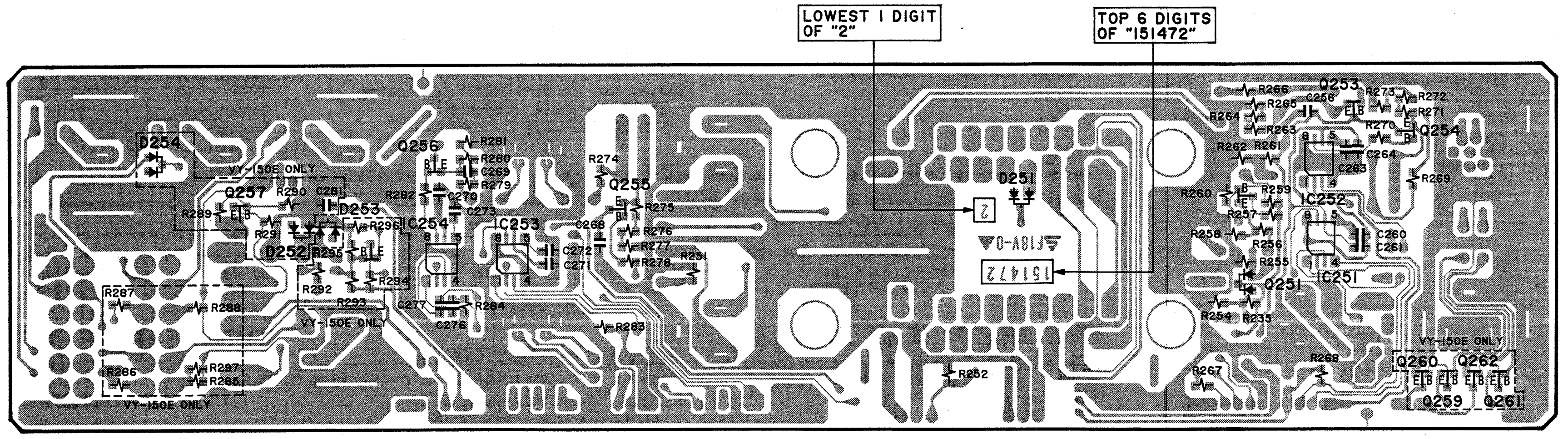
R (REAR JACK) CIRCUIT BOARD DIAGRAM

MAD (A/D CONV.) CIRCUIT BOARD DIAGRAM


VY-150E ONLY
To S(SYSTEM) PG618
To R(RGB PROCESS) PG615
To S(SYSTEM) PG619
To S(SYSTEM) PG616
To S(SYSTEM) PG617
VY-150E is not used
To S(SYSTEM) PG623
VY-150E ONLY
CN218
CN215
CN219
CN216
CN217
CN223
SW253
SW252
SW251
PAL
ON
OFF
RGB
J256
SYNC
J257
J258
J259
R
G
B
CP261
CP262
CP263
CP264
C282
C283
C287
C288
S-VIDEO IN
J255
S-VIDEO OUT
J254
CP257
CP258
CP259
CP260
C274
C275
C267
C286
VIDEO IN
J251
VIDEO OUT
CP252
CP253
CP254
J252 TV
J253 EXT(VTR)
21
1
151472
2
F18V-0
CP256
C251
C252
C253
C254
C255
C256
C257
C258
C262
C263
C265
C266
C284
C285
CP265
CP266
CP267
J260
J261
J262
PRINT TRIGGER
REMOTE
VY-150E ONLY

※THIS P.C.B IS A DOUBLE SIDE BOARD.

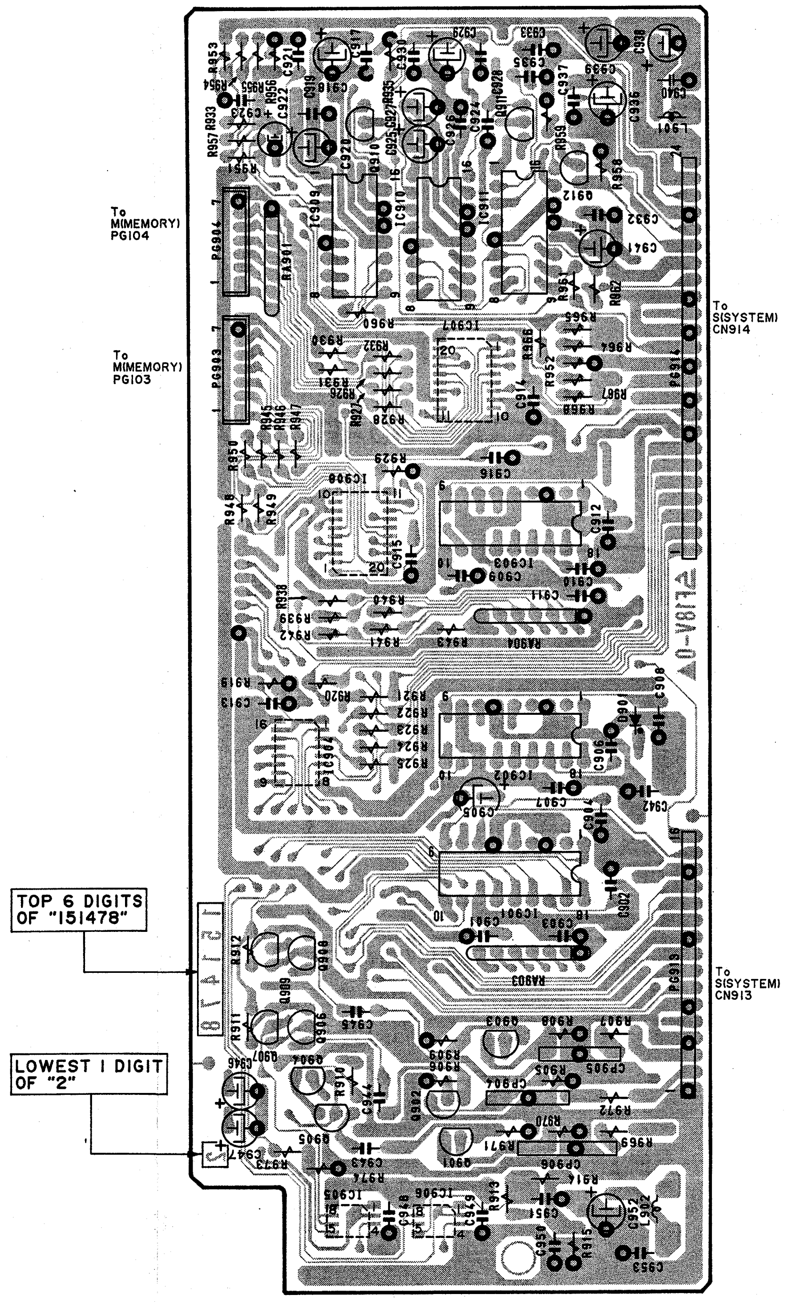
R(REAR JACK)P.C.B


LOWEST 1 DIGIT OF "2"
TOP 6 DIGITS OF "151472"
D254
VY-150E ONLY
Q257
R289
R290
C281
D253
R291
D252
R295
R296
R292
R293
R294
R287
R288
R286
R285
VY-150E ONLY
VY-150E ONLY
Q256
R281
R280
C269
R279
C270
C273
R282
IC254
IC253
C268
C272
C271
C277
C276
R284
R274
Q255
R275
R276
R277
R278
R283
D251
2
F18V-0
151472
R252
R266
R265
R264
R263
Q253
C258
R273
R272
R271
R270
Q254
R262
R261
C263
C264
R269
R260
R259
R257
IC252
R258
R256
R255
Q251
IC251
C260
C261
R254
R253
R268
R267
VY-150E ONLY
Q260
Q262
Q259
Q261

※THIS P.C.B IS A DOUBLE SIDE BOARD.

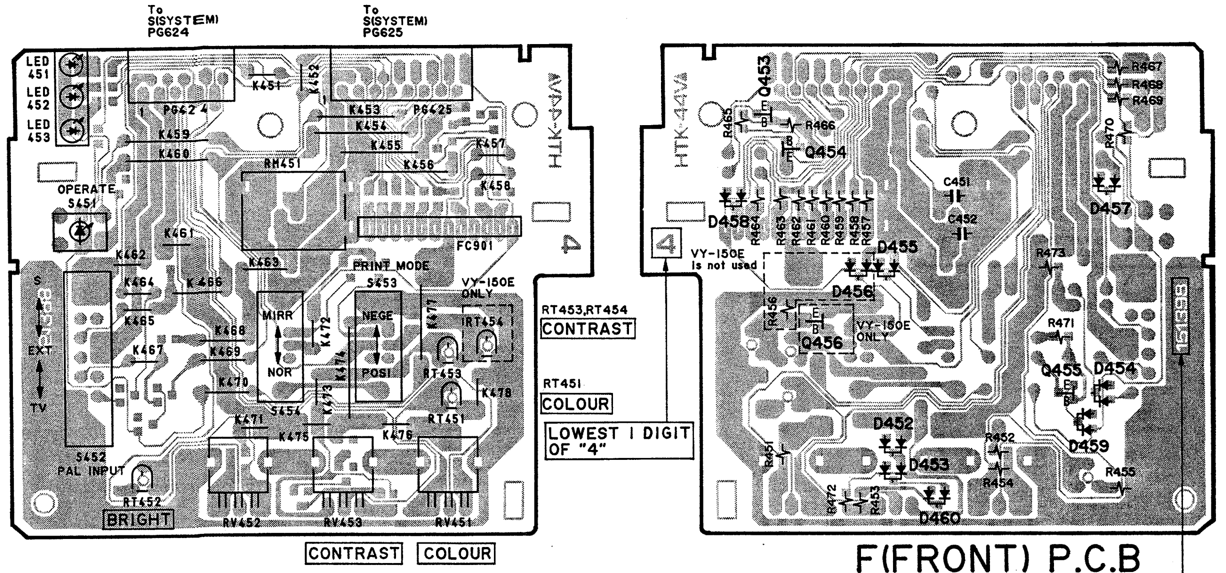
R(REAR JACK)P.C.B

- LEADLESS COMPONENT DIAGRAM -


To M(MEMORY) PG104
To M(MEMORY) PG103
To S(SYSTEM) CN914
To S(SYSTEM) CN913
TOP 6 DIGITS OF "151478"
LOWEST 1 DIGIT OF "2"
PG904
PG903
IC910
IC911
IC907
IC906
IC905
IC904
IC903
IC902
IC901
RA901
RA903
RA904
F18V-0
151478
2

MAD(A/D CONV.)P.C.B

F (FRONT) CIRCUIT BOARD DIAGRAM


To S(SYSTEM) PG624
To S(SYSTEM) PG625
LED 451
LED 452
LED 453
OPERATE S451
PG624
PG625
K451
K452
K453
K454
K455
K456
K457
K458
K459
K460
RM451
K461
K462
K463
K464
K466
K465
K467
K468
K469
K470
K471
K472
K473
K474
K475
K476
K477
K478
FC901
PRINT MODE S453
MIRR
NOR
NEGE
POSI
S454
S
EXT
TV
S452 PAL INPUT
RT452
BRIGHT
RV452
RV453
RV451
VY-150E ONLY
RT454
RT453
RT451
RT453,RT454 CONTRAST
RT451 COLOUR
LOWEST 1 DIGIT OF "4"
4
VY-150E Is not used
HTK-44V
D458
R465
R464
R463
R462
R461
R460
R459
R458
R457
Q453
Q454
R466
R467
R468
R469
R470
C451
C452
D457
D455
D456
R456
Q456
VY-150E ONLY
R473
R471
Q455
D454
D452
D453
R451
R452
R454
R455
D459
R472
R453
D460

CONTRAST COLOUR

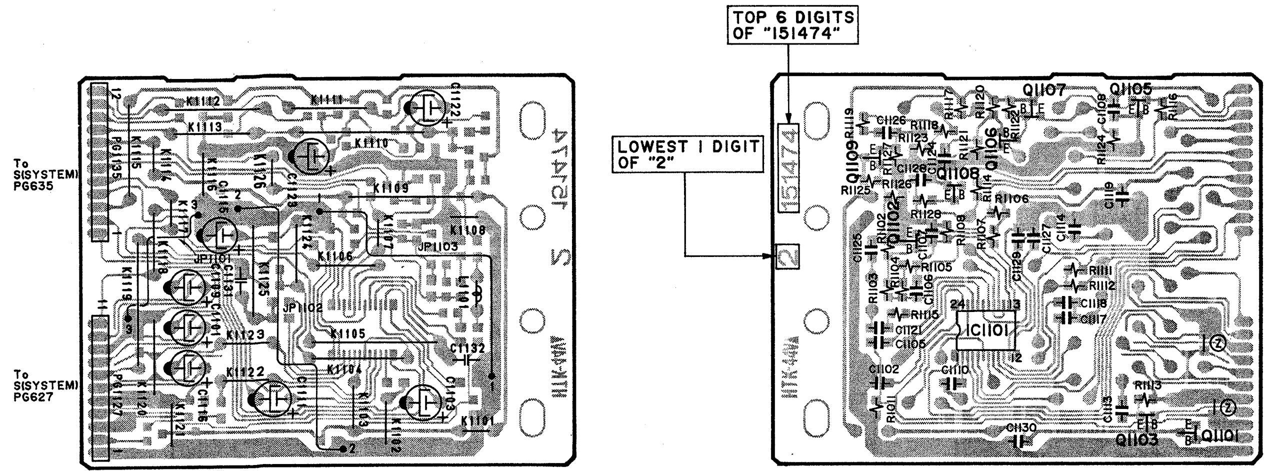
F(FRONT) P.C.B

F(FRONT) P.C.B

-LEADLESS COMPONENT DIAGRAM-

TOP 6 DIGITS OF "151398"

EN (ENCODER) CIRCUIT BOARD DIAGRAM


TOP 6 DIGITS OF "151474"
To S(SYSTEM) PG635
To S(SYSTEM) PG627
LOWEST 1 DIGIT OF "2"
HTK-44V
151474
2
K1111
K1112
K1113
K1114
K1115
K1116
K1117
K1118
K1119
K1120
K1121
K1122
K1123
K1124
K1125
K1126
K1101
K1102
K1103
K1104
K1105
K1106
K1107
K1108
K1109
JP1101
JP1102
JP1103
C1122
C1131
C1132
Q1107
Q1105
Q1106
Q1108
Q1101
Q1102
Q1103
IC1101
R1101
R1105
R1106
R1107
R1108
R1109
R1111
R1112
R1113
R1118
R1119
R1120
R1121
R1122
R1123
R1124
R1125
R1126
C1101
C1102
C1105
C1110
C1111
C1113
C1115
C1116
C1117
C1118
C1119
C1120
C1121
C1125
C1126
C1127
C1128
C1129
C1130

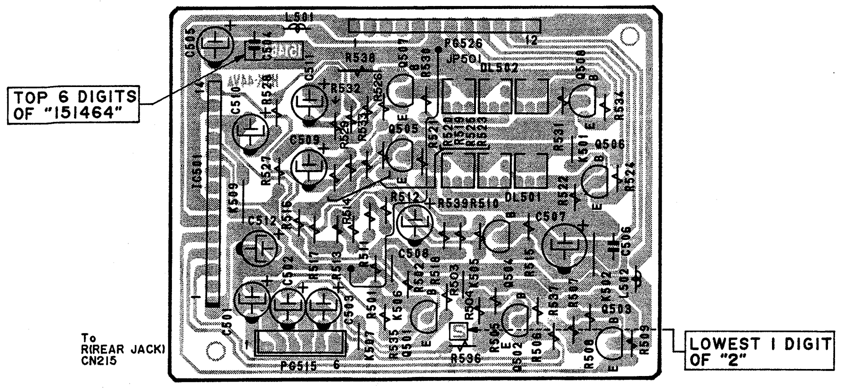
NOTE:MARK "②" IS LEADLESS (CHIP) JUMPER.

EN(ENCODER) P.C.B

EN(ENCODER) P.C.B

-LEADLESS COMPONENT DIAGRAM-

RGB (RGB PROCESS) CIRCUIT BOARD DIAGRAM


TOP 6 DIGITS OF "151464"
To R(REAR JACK) CN215
LOWEST 1 DIGIT OF "2"
L501
PG526
PG515
JP501
DL502
DL501
IC501
Q501
Q502
Q503
Q504
Q505
Q506
Q507
R510
R522
R524
R526
R531
R532
R534
R538
R539
R596
C501
C502
C503
C505
C506
C507
C508
C509
C510
C511
C512

RGB(RGB PROCESS) P.C.B

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